The Harveian Oration

ON

HARVEY AND GALEN.

Delivered before the Royal College of Physicians of London on Oct. 19th, 1896,

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[AFTER referring to the death of the late President, Sir J. Russell Reynolds, Bart., and a new benefaction received by the College during the last year, the Harveian orator drew attention to the special objects with which Harvey had founded this oration and then proceeded as follows:—]

It has always been the tradition, with which one would not willingly break, that Harvey himself and his great discovery should be specially commemorated on this occasion. A long series of eminent men have so fully treated of the immediate circumstances of the discovery of the circulation and its consequences, and its development in modern times, that it would be difficult indeed to add anything new to what they have already given us. But still I find that the genesis of Harvey's idea, and more especially its historical connexion with the labours of the great men of antiquity who laid the foundations on which our modern anatomy and physiology rest, have not received the same degree of attention. The antecedents, however, no less than the consequences, have to be taken into account in giving its true value to any scientific discovery.

It is generally admitted, though perhaps not always borne in mind, that no kind of knowledge has ever sprung into being without an antecedent but is undoubtedly connected with what was known before. In this respect science is only like all other kinds of natural phenomena. The present aspect of the world, geologists tell us, is a necessary consequence of previous conditions and changes. The present races of animals and plants are the descendants of a long series whose origin we cannot trace. Modern civilisation is the outcome of the efforts of man in all past ages to construct a social fabric. And so even our modern science, which we sometimes speak of as though it were altogether a new thing, is only the final resultant of all the endeavours of men in past times to penetrate the secrets of nature. When we look back upon those strivings they often seem perverse and contradictory; men at certain periods seem to have gone backward rather than forward. We are struck less by the few grains of truth than by the great mass of what we call errors. But let us speak gently of these errors and call them rather imperfect truths, for in science at least the truth of to-day is an error to-morrow. They are parts of a continuous evolution, in which the so-called truth and the so-called error are inseparably mingled.

Again, it seems to be sometimes thought that great original thinkers and discoverers make an exception to this law of continuous evolution. We imagine that such men as Aristotle, Galileo, Harvey, and Newton were independent of their predecessors, that, in fact, their great work was to demolish the errors—that is, to destroy the work—of those predecessors and to start afresh. But in reality no man, even the greatest, was ever thus independent. The investigator is indebted to those who went before him, not only for the instruments of research which they perfected, but for the conclusions which they arrived at. These conclusions, whether he admits or rejects them, serve for his help and guidance. It is easy to see that a discoverer profits by the ascertained discoveries of his forerunners. It is not so easily seen that the so-called errors of those men are also of great value to him. How many false solutions of a problem are required before the true solution is arrived at! How many are, indeed, necessary elements in this final solution! I know that there are various kinds of errors and that while some are stepping-stones others are stumbling-blocks; but still there is much truth in the general proposition that error is a stage in the development of truth. A certain novelist has sketched the character of a philosopher who devoted his life to writing the "History of Human Error." Were such a work ever honestly written it would be the "History of Human Progress." I ask your indulgence for entering on these abstract topics because they will be found to bear immediately upon the subject of my discourse, which is "The Relation of Harvey to his Predecessors, and especially to Galen."

It will be found, I think, that after tracing the services of Harvey's own generation and that immediately preceding it in providing him with the indispensable methods and instruments of research we are led back to Aristotle and Galen as the real predecessors of Harvey in his work concerning the heart. It was by the labours of the great school of Greek anatomists of whom Galen was the final representative (not forgetting their successors in the sixteenth century) that the problem, though unsolved, was put in such a shape that the genius of Harvey was enabled to solve it. Harvey's debt to Aristotle was warmly acknowledged by himself, and has been frequently insisted upon, so that it is less necessary to enlarge upon that theme. But his relations to Galen and the Greek anatomists Harvey himself, for reasons which I shall presently state, was unavoidably led to mention less clearly, and in modern times they have been greatly undervalued, or even misunderstood. It is therefore to Galen and Greek anatomy in general that I propose chiefly to confine myself. We need not fear that the result will be to lessen our admiration for Harvey or for his momentous discovery. The very contrary will be the case.

One sometimes wishes history could be written backwards that we could show how the state of affairs to-day is the consequence of that which existed yesterday or the year before, and so on. The practical difficulties of such a method would probably be too great, but in the present case I should like to trace the circumstances which influenced Harvey through the two generations preceding his own, more especially as that will give me the opportunity of obeying the Harveian precept by commemorating two great benefactors of our College—Thomas Linacre, our honoured founder, and John Caius. Harvey, as we all know, was a student first at Cambridge in the great college which owed its second foundation to Caius. He never knew Caius, who died five years before Harvey was born, but he worked under the posthumous influence of that eminent physician, and the example of a man so distinguished and standing in such relation to the young scholar must have had weight in determining the aspirations and the course of study of the greatest alumnus of his college. Beyond the one fact that Harvey followed Caius's example in studying in the schools of Italy I will only now draw attention to two of Caius's intellectual characteristics. He was an enthusiastic student of Greek medicine, and more especially of Galen, spending much time in revising and publishing some of his writings. Beside, or rather in consequence of, this bent he was keenly interested in anatomy, and founded a lectureship in his own college to promote its study. Caius stood as to time much in the same relation to Linacre as Harvey did to himself, being about four years old when Linacre died, but in spirit the earlier pair were much more intimately connected. Caius cannot have known the older physician, but he made him in most respects the model of his life, and was in the truest sense his intellectual heir. Indeed, it was in a filial spirit that he repaired the neglect of others by erecting a monument to Linacre in St. Paul's Cathedral with its well known affectionate inscription. We are brought back, then, to Linacre, our founder, as in a sense the intellectual grandfather of Harvey, and we ask, What share had he in moulding the mind and influencing the life of the most famous of his progeny? How far did he contribute to lay the foundation on which Harvey's great work was built? The answer is that though neither Linacre nor Caius, even through their writings, may have had any direct influence on Harvey, they represent not only the two preceding generations of English physicians, but also represent two successive stages in a great intellectual movement which was the indispensable preliminary to Harvey's work, and of which his great discovery may be called the culmination. This was the movement generally called the Renaissance, or the revival of learning, but which, for our present purpose, may be more closely defined as the "revival of Greek science." Every one knows that the most important factor in the revival of learning (so far as it took place in the fifteenth century, though doubtless it began much earlier) was, beside the invention of printing, the revival of Greek learning and the study of Greek writers in the original. This was largely influenced by the migration of Greek scholars to Italy after the fall of Constantinople, bringing with them the "brown Greek manuscripts" which it was

thought worth a journey to Italy to read and transcribe. From this arose a new Science, along with a new Literature and, as some think, a new Theology. Mr. Goldwin Smith has finely said that at this time "Greece rose from the dead, the New Testament in her hand." He might have said that in the other hand was the book of Science. We mention Linacre therefore because among the Hellenists or scholars concerned in the Greek revival he occupied a high and honourable place. Not less was he known as a humanist, being an elegant Latin scholar, and as such acquired a reputation which lasted far into the next century. On his public services as the founder of our College it is needless to dwell, except as a passing tribute of grateful remembrance; but a few facts from his life will help us to understand his position. Linacre was born about 1460, seven years after the conquest of Constantinople by the Turks, and a few years after the first book was issued from an European printing press—cardinal dates, as I have said, in the history of learning. After studying at Oxford he set the example, followed by Caius and Harvey, of travelling to Italy to bring home the treasures of the new learning. The records of his Italian journey show the romantic interest with which such a journey at that time might be invested. He carried introductions to the greatest scholars, such as Chalcondylas and Poliziano; he heard at Florence the lectures given to the princes of the house of Medici; and after moving among the Italian humanists, "himself not least but honoured of them all," bore off the highest laurels of Padua. Returning to his native land Linacre occupied a unique position in his profession, for he was probably the only physician in England who had read the Greek medical fathers in their original tongue. Many honours and dignities, as we know, fell to his lot. Late in life he exchanged medical practice for the priesthood, and thus enjoying comparative leisure crowded all his important work into the last seven years of his life. The year before his death he published a translation from Galen, which he says was accomplished with difficulty in the intervals of a painful disease. Almost on his deathbed he must have been correcting the proofs of his last work, an elaborate treatise on Latin composition, which was published shortly after his death.

Linacre has left us the example of a noble life; he was possessed from his youth till his death by the enthusiasm of learning. He was an idealist, devoted to objects which the world thought little of. His devotion to learning even in the arid form of grammar was hit off by his friend Erasmus in a piece of good-natured banter, which, I fancy, caught the eye of Robert Browning, who in his fine poem, "The Grammarian's Funeral," has expanded the sketch of the Ideal Scholar in a way which fits Linacre precisely if it was not meant for him. Let me quote a few lines:—

> "Yes, this in him was the peculiar grace,
> Still before living he'd learn how to live—
> No end to learning.
> Earn the means first—God surely will contrive
> Use for our earning.
>
> "Back to his book then; deeper drooped his head;
> *Calculus* racked him.
> Leaden before, his eyes grew dross of lead:
> *Tussis* attacked him.
> 'Now, Master, take a little rest'—not he!
> Not a whit troubled
> Back to his studies fresher than at first
> Fierce as a dragon.
>
> "So, with the throttling hands of Death at strife,
> Ground he at grammar;
> Still through the rattle parts of speech were rife.
> While he could stammer
> He settled *Hoti's* business—let it be!
> Properly based *Oun*
> Gave us the doctrine of the enclitic *De*,
> Dead from the waist down."

Looking back on the three great English physicians of successive generations we see that they all visited Italy, and each, doubtless, owed much to that Holy Land of the northern student. But they brought back different treasures. Linacre brought a knowledge of Greek and an enthusiasm for the new learning; Caius also much Greek and Latin, with a zeal for anatomy and training in clinical medicine; Harvey, again, a profound knowledge of anatomy, some experimental methods, and also a great enthusiasm for Aristotle, extending not only to his natural history, but to his physics and metaphysics, as we see in the Treatise on Generation.[1]

To return to Linacre. His great objects in life, which he pursued through all difficulties were these. One, and the lesser, was to improve Latin scholarship, on which he wrote several books which we need not speak of. The other and the greater was to make the works of Aristotle and Galen accessible by means of translations to scholars in general. He formed a sort of Aristotle society or club with his friends Grocyn and Latimer for the study and translation of the philosopher, and Erasmus tells us some versions of Aristotle were lying in Linacre's desk which he hoped would be profitable to future scholars; but they never appeared. Of Galen's works he translated several, some of them long and important. In medicine he wrote nothing original, and the above constitutes the life's work of this ardent and indefatigable scholar. We need not ask what the value of the positive achievement was, for it was curtailed by external circumstances and also by Linacre's fastidious accuracy, which made it difficult for him ever to think any work perfect enough to be published. But it may be asked, Was the *aim* which Linacre and his fellow-humanists set before them sufficiently important? Was it anything more than a matter of philological interest to revive and translate the Greek medical and philosophical classics? I think it was a worthy aim, and was justified by the event, for out of this work of the scholars grew the scientific movement, and out of this movement, in anatomy and botany more especially, was developed the first possibility of a scientific medicine. To show how these things happened would take a long time; I can only give a brief sketch of the position of the Greek fathers of medicine in Europe during the middle ages.

During what are called the Dark Ages the tradition of ancient medicine and science had been in the Western Empire completely broken. Galen and Hippocrates may have been known by name, but were quite inaccessible to physicians, as Greek had been forgotten even as a learned language, and Latin versions, if such had existed, were quite lost. When the medical classics came back to Europe it was by a circuitous route and through the medium of another language—the Arabic. The Arabian Mussulmans possessed versions made from the original Greek of the chief works of the great Greek writers in philosophy, astronomy, and other sciences, as well as in medicine. From these Arabic versions a great number of Latin translations were made in the eleventh and twelfth centuries, chiefly in Mahomedan Spain, till gradually a large part of Greek science and medicine, with the Arabic comments and compilations, was put into Latin, and a knowledge of it became diffused through Europe. It is well known that a great stimulus was thus given to European thought. To this was due the first scientific revival, associated to us with the names of such men as Roger Bacon and Albertus Magnus. And in our own subject the Arabic version of Greek medicine thus presented was the foundation of all medical knowledge through the Middle Ages. But among all these writers two names were always conspicuous, Aristotle and Galen, both of whom the Arabs honoured almost to adoration, and who, largely for this reason, took a corresponding position in the mediæval world. It has often been said that while Aristotle reigned supreme over the schools Galen was the autocrat of medicine, rulers whose authority it was almost impiety to question. Hippocrates was often named as the master of Galen, but was certainly little read. A great crowd of Arabian and modern writers formed the court and retinue of the monarch Galen, and, as may happen in actual life, had in many cases more influence than the titular sovereign. Chaucer has given us in his portrait of the Doctor of Physic a good notion of the library of a mediæval physician—

> "Well knew he the old Æsculapius
> And Dioscorides, and eke Rufus;
> Old Hippocras, Hali, and Galien,
> Serapion, Rasis, and Avicen;
> Averroes, Damascene, and Constantin,
> Bernard, and Gatisden, and Gilbertin."[2]

The mediæval world was thus in a sense possessed of the chief Greek medical writers; and if this was so, one asks why Linacre and the humanists thought they were rendering such an important service to medicine in re-translating Aristotle, Galen, and Hippocrates from the original Greek? The fact was that the doubly translated versions of the Greek classics had, as might be expected from their history, many defects. Their style was considered barbarous and, from the ignorance of the translators, often quite unintelligible. To the

[1] This may, I think, clearly be traced to the contemporary Peripatetic or Aristotelian school of Italy.

[2] Canterbury Tales: The Prologue.

mediæval practitioner who wanted an authority to quote from rather than to understand this defect was less conspicuous. Then many of the best Greek works were either untranslated or practically unknown. It has been said that many a mediæval practitioner called himself a staunch Aristotelian though he knew no more of the master than two short logical treatises,[2] and the mediæval physician who swore by Galen often went no further than his smaller therapeutical work known as the "Liber Tegni," or "Ars Parva." Moreover, as time went on the popularity of the translated Greek works evidently diminished, while Avicenna and other Arabians became predominant. Along with them the mediæval compilers and copyists known as the Arabists or Neoterics (whom Harvey is recorded to have spoken of with great contempt) gradually became the most popular of all, being naturally more easily understood by their contemporaries. The scholars began to complain that the Arabians and their followers (the Neoterics and writers of so-called *Practica*) reigned in all the schools, while the pure fountains of Greek medicine were neglected. Linacre and his fellow humanists doubtless thought that if they could return to those uncorrupted springs and present the best works of antiquity in a classical form without barbarous corruptions medicine might go back to the glory of ancient Greece and Hippocrates and Galen have worthy modern successors. In a certain sense they were right, though the ultimate success of their efforts came in a different form from what they anticipated. At all events the revival of the Greek medical classics led to a sort of declaration of war against the Arabians. With some enthusiasts it became a crusade in which, strangely enough, Hippocrates and Galen were counted on the Christian side. One fantastic writer imagines that St. Luke, the Evangelist Physician whose day we commemorate in this meeting, by his intercession with the Almighty secured divine aid for the holy war which was intended to liberate the heroes of Greek medicine from their captivity among the infidels. These were extravagancies. The scholars, however, had more serious views, so that in about one generation, or say, roughly, by the middle of the sixteenth century, a large number of physicians had adopted the revived Greek medicine in preference to the Arabian, though the older school was not at all superseded.

It is noticeable that the name which the new school adopted and was called by was Galenical or the Galenists. A small society of young physicians in Florence called themselves, in imitation of the well-known Platonic Academy, the Galenical Academy of Florence. Our own College, one of the first-fruits of the Renaissance, was, as might be expected from its history, strongly Galenical. This was the work accomplished by the school and generation to which Linacre belonged, the first stage of the Hellenic revival. We may conveniently connect it with the name of Linacre, but of course there were many others associated in the work, as Copus of Paris, Winter of Andernach, Leoniceno in Italy, and Cornarius (Hagenbut) in Germany. It was assisted also by such men as Michael Servetus, the theologian, and François Rabelais, the great humourist. I have called this school elsewhere the medical humanists. Now it might be thought that the only result of this change would be to confirm the rule of Galen more firmly than ever. New Galenism would only be mediæval Galenism "writ large." To a certain extent and for a short time this was the case. Galen was still thought infallible. If any error was detected in his anatomy it was said either that the text was corrupt or that the structure of the body had changed since his time. The history of our own College shows that Galenical orthodoxy could rival the theological in its rigour. But this was not for long. When the leaven had had time to work and a second generation of Galenists had assimilated the new doctrines more completely a totally different spirit began to prevail. All over Europe this phenomenon presented itself, that the medical humanists and Galenists, especially those well skilled in Greek, were turning to the investigation of nature. The sciences of anatomy and botany were especially cultivated by them, and it would seem by them alone. Clinical medicine owed its revival to the Galenists. It was evident that the revived Hellenism, so far from perpetuating the reign of dogma, had an inspiring and vivifying influence. Thus it was with the second generation of the medical humanists, the second stage of the Greek revival, sufficiently denoted for us by the name of John Caius, but including other and greater names which must be briefly referred to.

[2] Sir Alexander Grant's Aristotle, 1877, p. 59.

One of the earliest anatomists at this time was Jacobus Sylvius, professor at Paris, an ardent student in the original Greek of Galen's works, in which he would see no error, but also an independent dissector. Among his pupils were Servetus, a typical scholar of the Renaissance; Charles Étienne or Stephanus, belonging to the family of printers of that name, renowned for their learning; and the celebrated Vesalius. The latter was an ardent Greek scholar. Caius has told us how, when the two physicians lived in the same house at Padua, Vesalius would bring out his Greek manuscripts to clear up some passage in Galen or some difficult point in anatomy. Vesalius has been chiefly praised for correcting the errors of Galen and rightly so praised. But his researches were based upon the system which he destroyed, and though it is rash to say what might have happened had things been different it is hard to see how anatomy would have arisen when it did had Galen's works perished. What anatomy there had been in the Middle Ages from Mondino to Berengario Carpi was based on rude compilations of anatomy derived from Galen; but when his works were studied in the original we see the difference; modern anatomy began. Even to this day every student who goes down to the dissecting room, his text-book in his hand, has reason to be thankful that in the fifteenth century men began to read Greek manuscripts.

Botany and the allied science of drugs owed their renovation to the revival of Dioscorides and in a minor degree to Galen. The great German herbalists, whose beautifully illustrated works superseded the rude herbals of the middle ages, were all Greek scholars; some, such as Fuchs, original and learned editors of the Greek classics. The works of the Italian Matthioli, the most popular of all books of plants, were based on Dioscorides. Cesalpino, considered the first botanist of his age, was a profound Aristotelian scholar Gesner, the first naturalist in a wide sense since Aristotle, was, at the same time, professor of Greek and an editor of Galen. Nor was this activity confined to men of eminence. The young physicians of the Galenical Academy at Florence before referred to thus describe their pursuits. In the winter they studied from Dioscorides the history and forms, and from Galen the uses of plants. So soon as the season permitted and the snows began to disappear from the Apennines they made excursions into the country and on the mountains to gather herbs useful in medicine. In this way they hoped to restore the ancient medicine of Hippocrates and Galen, and thus only they thought could they become worthy to be called true Galenists. The story is everywhere the same. The Galenists were the students of nature and thus modern natural science grew out of the ancient science of the Greeks. In what way it could have arisen otherwise is only a matter of speculation.

Clinical medicine may be thought to be that department in which the study of the ancients could be of the least use, and that observation alone without any reference to books would have been the surest guide. But here, again, we find that the Greek scholars led the way. Da Monte (Montanus), first distinguished by his editions of Galen, was the earliest clinical teacher of medicine in the modern sense. His lectures at Padua attracted crowds of students from all parts of Europe. Yet Da Monte's method of learning and teaching medicine, on which he wrote special books, was avowedly based on Galen. His pupil, our own John Caius, followed in his steps. Caius was a zealous editor and commentator of Galen, and supplied emendations of his text, which I am told are still valued. He also wrote a *Methodus Medendi* according to the system of Galen. But it was Caius again who made in his admirable works on the Sweating Sickness the first original contribution to clinical medicine of which our country can boast. Indeed, the best of the numerous writings on this disease were due to men who were distinguished for their scholarship. The same was true of syphilis, a disease in which the direct teaching of the ancients could be of no service, but of which men trained in Greek scholarship, such as Leoniceno of Vicenza and others, whom it would be tedious to mention, have left the best descriptions.

The study of Galen again led inevitably to that of Hippocrates, the great master of clinical description. Cornarius and many of the great humanists edited and translated his works; Rabelais, at Lyons, gave lectures on Hippocrates, which we may hope were lively. These labours, together with the long-forgotten work of Celsus, prepared the way for the revival of Hippocratic medicine in the seventeenth century, with which will always be connected the illustrious name of Sydenham. It

will then appear that the revival of medicine in all its departments was essentially a revival of Greek science. For the third time in history the Greek spirit gave new life to the intellectual progress of another race; as it had before to the Romans and then to the Arabs, so now to the modern Europeans. Out of this great revival grew the new birth of medicine, which through the scholars and the anatomists led up to what was in anatomy its culminating point, the great discovery of Harvey. With his momentous innovation the wave of the Greek revival had spent its force and the era of modern medicine began. But still Harvey was in an intellectual sense the heir of Aristotle and Galen.

If the sketch which has now been given of the two generations antecedent to Harvey be correct, his discovery of the circulation was the climax of that movement which began a century and a half before, with the revival of the Greek medical classics and especially of Galen; for without Galen's insistence on the all-importance of anatomy in every branch of medicine and surgery the anatomical revival would probably never have taken place. What honour or gratitude has Galen received for this signal service? In modern times scanty praise or none. The great physician whom Harvey speaks of *divinus ille vir* seems to be often thought good for little better than to point the moral of erroneous science. In some modern works, nay, sometimes even in a Harveian Oration, we hear only of the astounding errors of Galen. There is, perhaps, no other instance of a man of equal intellectual rank who has been so persistently misunderstood and even misrepresented—a reaction doubtless from the extravagant homage formerly paid to him. Some have thought it would have been better if Galen had been forgotten and the medical revival had started direct from Hippocrates. I cannot think so. In that case there would probably have been no anatomy, which is little regarded in the Hippocratic treatises and the great discovery of Harvey might not have been made. Medicine would probably have lapsed into pure empiricism, and might not for centuries have been placed upon a scientific basis.

Still less can we wish that medicine had followed Paracelsus in his violent revolt against Galen and the ancients. Paracelsus equally repudiated anatomy; and, moreover, experience shows that blank denial and contradiction are not the best means of dealing with traditional doctrines. The school of Paracelsus, though it did some service to medicine by way of chemistry, remained a sort of side stream or back-water, no part of the great river of scientific progress which took its rise from the revival of learning. European medicine passed, in fact, through the same three stages which we now think necessary in medical education, of general, of scientific, and of practical training. First it was disciplined by Linacre and the humanists in accurate knowledge of the medical classics; next by the anatomists and botanists in the revived Greek science; and thus it was prepared for the right appreciation and study of practical medicine. We cannot wish that the order of progress should have been otherwise.

If Harvey's discovery is the final culmination in medicine of the Renaissance or Greek revival it will be interesting to compare his work with that of the Greeks, and more especially with that of Galen. The intervening generations of anatomists—Vesalius, Colombus, Fabricius, and the rest—added much to the older knowledge of the structure of the body, but, except in the explanation of the pulmonary circulation, little to the knowledge of physiology. On this field Harvey stands face to face with Galen, nor is there any third figure that can be compared with them except that of the founder of biological science, Aristotle himself. Galen and Harvey seem at first sight such different personalities that it might be easier to find in them features of diversity than of likeness, but there was between them at least one point of contact—their love for anatomy, including what neither of them ever conceived of as a distinct science, the study of function which we now call physiology. If Galen had written nothing else than his works treating of these subjects he might not have received almost divine honours, as he did for a thousand years; but he would still be one of the greatest anatomists and physiologists of the world.

In speaking of Galen we are impressed with a sense of the immensity of the subject. His works form one vast encyclopædia of ancient medicine, comprising anatomy, physiology, practical medicine and surgery, therapeutics with the knowledge of drugs, and practical hygiene and professional ethics. Then we have materials towards the history of medicine which can be found nowhere else, while nearly all that is valuable in the Hippocratic writings could be recovered from Galen. Philosophy and logic are largely discussed, though most of Galen's works on those subjects are known to be lost. No one could better deserve to be called an encyclopædist. But what Galen most prided himself upon was his method. He claimed to have organised medical science and practice so that his disciples could find their way through the tangled maze of medicine, and compared himself to Trajan, who by his great military roads through Italy had made government as well as communication easier. Here we have the clue to the one element in Galen which is not Greek, something of the organising and governing faculty of Imperial Rome, which he might have derived from personal acquaintance with the rulers of the Latin world. His ideal was rather an empire of medicine than a group of republics. This very spirit of system, while it aided his supremacy through so many centuries, is in modern eyes his weakness. For systems are essentially temporary and doomed to decay, while the objective statement of original observation will always possess a certain value. It must not be supposed, however, that Galen's works contain no original observations. There are many and of great value; but often they have to be dug out of his theoretical expositions like fossils from a rock. The other great fault which both ancients and moderns find in his works is his immense prolixity; Galen in a way confesses this. But he says, naïvely, "If I do write long books it is not my fault; it is the fault of the other people, who will write books full of so many wretched arguments." His obscurity often results from extreme subtlety of thought. Few physicians or even scholars in the present day can claim to have even read through this vast collection; I certainly least of all. I can only pretend to have touched the fringe, especially of the anatomical and physiological works. Even a cursory survey, however, is enough to give a clear notion of the point to which I desire to draw special attention; his methods of inquiry, his standard of evidence, and of scientific proof. In these respects I think he will not be found wanting even judged by a modern standpoint.

Galen's great anatomical work, "De Administrationibus Anatomicis," or manual of dissections, consists of fourteen books, of which the last five are not accessible in either Greek or Latin, but exist only in a manuscript Arabic version which has not been published. Unfortunately the lost books contain part of his account of the nervous system. His chief physiological work, "De Usu Partium," might almost be called a treatise on natural theology, being intended to show the wisdom of the Creator in the adaptation of the parts of the body to their functions. These relations, he says, truly constitute the basis of a perfect theology, which is far greater and more to be honoured than the whole of medicine. For Galen, it may be observed, was a devout monotheist; he was evidently acquainted with part of the Old Testament and had probably heard some echoes of Christian teaching. What he may have said in confidential moments about Jupiter and the Olympian deities we do not know. This theological bias gives a certain warp to the book, for, feeling bound to show the perfection of arrangements which he imperfectly understood, he was naturally led into many errors. Still, it contains a full account of the functions of all organs of the body, as he understood them, and, in the words of Dr. Greenhill, is a truly noble work. Beside these there are smaller works on special parts of anatomy and physiology; and one controversial book, "De Placitis Hippocratis et Platonis," directed against the Stoics and Peripatetics (or Aristotelians), is of importance as showing his methods of proof and argument. This work is quoted by Harvey.

It must be remembered that Galen's own dissections were made entirely on animals, the dissection of the human body being then quite impossible. Probably he had occasionally a glimpse of the internal organs in man, but his own remarks show that it could only have been a hurried inspection. This fact is the cause of a large number of the anatomical errors detected by Vesalius in Galen's works, such as the description of a rete mirabile in the human skull, of the origin of the two carotids from a single stem, and many others. In one really important instance, that of the supposed perviousness of the ventricular septum, he does apparently allow deduction to take the place of observation. It was evident that the blood must somehow pass from the right to the left side of the heart; and, being ignorant of the long circuit by the lungs, the old anatomists

inferred a short circuit through the heart itself. Probably they were confirmed by the occasional imperfection of the ventricular septum in the lower animals and by some anatomical facts which I cannot enter upon now. The same is true of the supposed anastomoses between veins and arteries which he saw must somehow exist, though of course he was quite ignorant of capillaries. Even Harvey concluded from deduction, not from actual observation, that the terminal arteries and terminal veins were connected. Galen's views of the heart and the motion of the blood have often been expounded and discussed. It is, therefore, unnecessary to go fully into them. I only desire to show that his methods of investigation were perfectly sound though they led to an erroneous conclusion. His sources of knowledge on the subject were:—1. Dissection of a great variety of animals, mammalia (including at least once an elephant), birds, fishes, and reptiles. He says cautiously that he did not dissect such creatures as gnats, flies, bees, ants, and worms, because seeing what mistakes anatomists had made in dissecting larger animals he thought they would be likely to go still more wrong in the case of these small creatures. 2. Elaborate dissections, in the modern way, continually repeated, of those animals most resembling men, especially apes. 3. Observation of the heart and vessels in living animals which he opened for the purpose. He speaks, also, more than once of the case of a boy in whom the chest walls were deficient from the results of an accident, so that the movements of the heart could be seen. 4. Numerous experiments on living animals, made in his time with less reserve than at the present day. These experiments, though not always leading to correct conclusions, were extremely well contrived and quite scientific in their plan.

Of course Galen had a large body of anatomical knowledge behind him derived from the Alexandrian anatomists and their successors, but he never quotes any of their statements as authorities, relying entirely on his own observations and demonstrations. Had he quoted those anatomists who had actually dissected the human body he would probably have often been more correct, according to modern knowledge, but his resolute independence forbade him to describe what he had not seen. I quote a few instances to show his method of argument. The most important error of Galen and the old anatomists was no doubt that of attributing the origin of all veins to the liver. Nothing was a greater hindrance to a correct idea of the circulation. But this, as a *primâ facie* view, was very natural. When we open the body after death has taken place by the ordinary asphyxial method we find all the veins full of blood and all apparently communicating with the liver, the systemic veins by the hepatic, the portal system separately. Moreover, the connexion of the umbilical vein with the liver in the fœtus was also noticed. This view was not universally accepted. Galen's first instructor in anatomy, Pelops, taught that all bloodvessels originated in the brain—a view which the scepticism of the pupil even at that early age refused to accept.[4] The doctrine of Aristotle was that all bloodvessels originated in the heart, the vena cava and its branches supplying the right side of the body and the aorta and its branches supplying the left side. Aristotle's views were maintained by contemporaries of Galen, whose answer to them was that there was one system of veins unconnected with the heart—namely, the portal system, which communicated only with the liver. This, he says, "I have demonstrated to those desirous of knowing the truth, and they have been astonished at the error of those who maintained that all veins came from the heart."[5] Galen's argument is perfectly sound from his facts, though it confirmed him in an erroneous conclusion. What Aristotle's answer would have been we do not know. The Peripatetics, the followers of Aristotle in Galen's time, seem to have had no answer except *a priori* arguments; in fact, Galen's argument was never answered except by Harvey.

It is well known that Erasistratus and all anatomists before Galen, except Aristotle, maintained that the arteries contained only "spirit" or air, not blood. Galen proved that they contained blood, not only by the familiar experience of blood flowing from a cut artery (which the older anatomists explained by a supposed anastomosis between veins and arteries), but by placing two ligatures on an artery and dividing the vessel between them, when, of course, only blood would be found. He also inserted a fine cannula into the left ventricle of the heart during life and showed that blood immediately flowed out without a moment's interval in which the supposed spirit might have escaped.[6] This, he says, he demonstrated to many persons who were incredulous on the subject. Galen clearly states that the bright-coloured, thin, subtle, spirituous (in modern phrase arterial) blood formed in the left ventricle by mixture with "vital spirit" concocted in the lungs with the help of the air was violently carried by the arteries all over the body.[7] If we put vital air or oxygen for vital spirit it approximates strangely to the modern doctrine, though the anatomical errors are obvious and need not be dwelt upon. At the same time, the air returning to the lungs was supposed to carry off and send out in expiration what was, as it were, burnt up, smoky or sooty matter. If we put for "smoky" the word "carbonaceous" we have a near approach to a theory of respiration which was in vogue about fifty years ago.[8]

It seems strange to us that the ancients should have supposed spirit and not blood to be conveyed from the lungs to the heart by the pulmonary veins. But it should be remembered that after the ordinary asphyxial mode of death when the heart is healthy the left auricle and pulmonary veins are usually collapsed and empty, and would therefore have been supposed to contain during life air which had escaped. It is otherwise in the living animal, and it was Colombo[9] who first proved by actual experiment on the living heart that they conveyed blood from the lungs. It seems strange that Galen who was so fond of experiment never tried a like experiment on the pulmonary veins. Galen's knowledge of comparative anatomy enabled him to confute Aristotle's statement that large animals have three cavities in the heart whilst small animals have only two, of which several explanations have been suggested. The horse, he says, has no more than the sparrow, nor the ox than the mouse.[10] He found the right ventricle of the heart always wanting in animals which had no lungs and did not breathe air, like fishes (but not in all aquatic animals) and concluded that the right ventricle was made for the sake of the lungs. It appears then that Galen's sources of evidence respecting the motion of the heart were the same as Harvey's—viz., comparison of structure in a variety of animals, argument from the use of these structures, observation of the living heart, and numerous experiments on animals.

It may be asked why, if Galen had a correct method and knew most of the facts so accurately, did he not discover the circulation? The difference of structure between human and inferior anatomy, which was Galen's weak point, did not come in here. But why did not Vesalius, or Fabricius, or Colombo, whose anatomical knowledge was quite as complete as was required, get near it? The fact seems to be that the problem was one of those in which you must be wholly right or wholly wrong. It is like those word-puzzles in which a number of letters are thrown on the table to make a word. No combination except the right one is much nearer the truth than another. The word is not spelt till the right combination is effected. So in this problem the mere accumulation of correct data was of little avail. Galen made a marvellously ingenious combination of letters, but it did not spell the right word. Harvey had no difficulty in showing that Galen was inconsistent with himself—more inconsistent, indeed, than those who knew less. Servetus and Colombo, who knew the lesser circulation, and Fabricius, who described the valves of the veins, were still more inconsistent. At last came the master mind which arranged the letters in the right order, and so the word was spelt for all the world to read. To do this required that peculiar high faculty of synthesis which is rightly regarded as an attribute of genius, and is closely allied to the poetical imagination. This faculty seems not always to follow the strict chain of reasoning, link after link, or to result from a mere collecting and marshalling of the data, however skilful, as Bacon supposed. The creation of the poet is generated in his mind from pre-existing sensations and ideas by a process which he cannot understand himself and which the great poets have spoken of reverently as a kind of inspiration. So the idea of a great discoverer or inventor is generated by some process of which he himself may be only partly conscious; and a new form, like that idea of Harvey's, of a

[4] De Placitis, vi., cap. 3, Kühn, v., p. 527.
[5] Ibid., vi., cap. 5, Kühn, v., p. 542.
[6] Ibid., i., cap. 5, Kühn, v., pp. 182-4.
[7] Ibid., vi., cap. 8, Kühn, v., p. 572.
[8] De Usu Partium, vi., cap. 2, Kühn, iii., p. 412.
[9] Realdus Columbus, De Re Anatomica, lib. xiv., Venetiis, 1559, p. 261.
[10] De Usu Partium, vi., cap. 19, Kühn, iii., p. 442.

circular motion results. The difference is that the scientific idea, unlike the poetical, requires to be carefully verified and proved—a process which Harvey himself was the last to neglect.

Further, to illustrate Galen's scientific method, I should like to say something about his physiology of the nervous system to which justice has hardly been done, but which was certainly his greatest achievement. My object now is merely to show that Galen's method in investigating this subject was the only true one of observation and experiment, not to dwell upon his results, though they were very considerable. Before entering on this subject I should like to say a word on one point in which a difference of language makes Galen's views seem much more different from modern physiology than they really were—the old and famous doctrine of the animal spirits. He explained nervous action, both motion and sensation, by something descending from the brain through the nerves to the muscles and other parts. This something he called ψυχικὸν πνεῦμα, a phrase of which the modern translation through two languages into "animal spirits" is somewhat misleading, being the origin of all our colloquial phrases, high and low spirits, and so on. The original meaning is rather "breath of the soul," or breath belonging to the psyche. The word "psyche" itself is difficult to render; soul, mind, consciousness, the sensorium, &c., all have other connotations, and so I find that some modern psychologists prefer to use the old term "psyche" for that which we suppose to be manifested through the brain. I cannot suggest any better definition of the psyche than the tautological one that it is the subject of the science of psychology. The "pneuma" was supposed to be some kind of air or very subtle fluid capable of traversing the solid nerves. Our modern expression for what traverses the nerves is "nerve force." But I am not sure that "nerve force" is a much more scientific expression, since the correlation of this force with physical forces is by no means rigidly established. It seems to be a convenient expression for something the nature of which we do not know. I may be heretical in this, but let that pass for the moment.

However, in justice to Galen's ignorance we should remember that it was only the other day we were taught in every text-book of physics that electricity and magnetism were subtle fluids and we were sometimes given the choice between the single fluid and the double fluid hypothesis. Electric fluid is a vernacular phrase. The term "nervous fluid" was retained in text-books of physiology which some of us learned from, and between nervous fluid and nervous pneuma there seems little to choose. The hypothesis of electric, magnetic, and nervous fluids, no doubt explained many phenomena fairly well till it was found there were other phenomena which they did not explain, and so they were given up. Galen unfortunately materialised his pneuma too much, supposing it to be included, like air, in the ventricles of the brain. He also had strange theories of the production of swelling and tension by the pneuma, which, of course, were totally erroneous,[11] and hence his theory seems more remote from modern science than it really is. But it might be shown, if I had time, how curiously he thought the presence of pneuma in the cerebral ventricles was proved by his numerous and careful experiments on the living brain. His method of investigation was in intention perfectly sound. Galen maintained the doctrine of the Hippocratic school if not of Hippocrates himself, and of Plato, that the brain was the centre of voluntary movement, sensation, and thought (the same conception is perhaps indicated by the old Greek myth of Pallas Athene springing from the head of Zeus), though inconsistently he retained the old attribution of certain passions to other organs, such as anger to the heart. He showed that all the nerves originated in the brain, either directly or by means of the spinal cord, which he thought to be a conducting organ merely, not a centre. In opposition to this, it should be remembered, was the theory of Aristotle, who held that the heart was the seat of the sensitive soul with its correlative voluntary movement and that what we should call nervous action originated there, while the brain was of secondary importance, being the coldest part of the body, devoid of blood, and having for its chief or only function to cool the heart. Aristotle's reasons for adopting this unfortunate misconception of the brain have been much discussed and are fully stated in Dr. William Ogle's admirable translation of Aristotle's "De Partibus Animalium." They were partly positive observations such as that the brain substance was itself insensitive and that many animals which could feel and move (our invertebrata) had no brain, and that he could not trace any connexion between the organs of special sense and the brain. But also he was strongly influenced by his metaphysical idea that the "sensitive soul" was indissolubly connected with heat and therefore could not have its seat in the coldest organ of the body devoid of blood. One wonders whether, if Aristotle had been a practising medical man or army surgeon, accustomed to study the effects of blows on the head, he would ever have propounded this theory.

Aristotle's positive arguments for the heart being the centre of sensation and voluntary motion were partly the preconceived idea which I have just mentioned—partly his observations as a psychologist on the connexion of emotions with the heart and also one fallacious anatomical observation. Seeing the chordæ tendineæ of the heart, he thought they were nerves and the source of all the nerves in the body. True he did not distinguish between sinews and nerves, calling them all νεῦρα (neura), but he must have regarded these structures as having what we now call motor nervous functions, since he thought them the origin of all voluntary movements throughout the body. He does not appear to connect them with sensation. At all events, this was the foundation of the celebrated doctrine of the origin of nerves in the heart which was maintained by the followers of Aristotle for hundreds of years. Now one does not recall these misconceptions with the paltry aim, which I have already condemned, of branding as astonishing errors the imperfect generalisations of the great founder of natural science. It is on account of their historical importance. This point of the relation of the brain and heart was fundamental, and had, I think, the most injurious influence on the progress of physiology. Aristotle's great services to biology were, first, that he started the investigation; then his great generalisation of the unity of the animal kingdom, better appreciated now than ever; and also his marvellous contributions to morphology, which seem to me incomparably more important than his explanations of function which are largely tinged with metaphysics. In physiology his great achievement was his conception, derived from his studies of the embryo, of the indissoluble connexion of the heart, the bloodvessels, and the blood, by which he kept clear of the liver, that great stumbling-block of the medical anatomists. It was this which Harvey so much appreciated, and one reason which led him to speak of Aristotle with such generous enthusiasm.

Aristotle's great authority maintained his views as to the rival claims of the heart and brain to be the seat of nervous function and vitality for many centuries. They were supported chiefly by the philosophers and opposed by nearly all the medical anatomists. They were the subject of active controversy in the time of Galen. In the middle ages they were maintained in opposition to Galen by Averroes, the reviver of the study of Aristotle; and Cesalpino, often spoken of as a forerunner of Harvey, presented them again in the sixteenth century. Nay, about 2000 years after Aristotle's time, a professor at Padua contemporary with Harvey, one Cæsar Cremoninus, wrote a long book to defend Aristotle's theories on these points in all their details against Galen and the modern anatomists. For all I know they found still later defenders.[12] Galen, as Harvey[13] says, in demonstrating the connexion of the nerves with the brain might justly boast that he had discovered what was unknown to Aristotle, and thus, when he was endeavouring to found the physiology of the nervous system on the basis of experiment and observation, had to deal with Aristotle's views. Vesalius[14] and others have blamed Galen for criticising so severely the *obiter dicta* of the illustrious ancient philosopher. But it was impossible for Galen to look upon these matters with the dispassionate calm of a historian. It was a living question. He was meeting every day with people who said that the nerves originated in the heart and that Galen's ideas about the brain were mere fancies. He was thus inevitably drawn into an attitude of opposition. So in later times Vesalius and

[11] To find still stranger performances ascribed to the "spirits" we have only to look at the works of Willis.

[12] Apologia Dictorum Aristotelis de Origine et Principatu Membrorum adversus Galenum Cæsaris Cremonini in Schola Patavina Philosophi Primæ Sedis. Venetiis, 1627.

[13] Harvey: Prælectiones, MS. fol. 95—"Hoc jure gloriari Galenum invento Aristoteli ignoto." This was, however, more than Galen claimed for himself.

[14] De Humani Corporis Fabrica, 1543, p. 590.

Harvey were forced to appear as the opponents of Galen, whom they greatly respected; for Galen in their time had warm supporters. But it should be remembered that had Galen been out of the way, and had the tradition of physiology descended, as some seem to think it did, straight from Aristotle, Harvey must have appeared as the opponent of Aristotle himself. Harvey's singleness of purpose and fine urbanity, however, make him appear as little as possible the opponent of anyone.

Our present question is, however, What were Galen's grounds of belief? How did he meet his opponents? His great complaint against the Peripatetics or Aristotelians was that while they discoursed about anatomy they would not dissect. He met an argument with a dissection or an experiment. "Come and see for yourselves" was his constant cry. A thousand times, he says, I have demonstrated by dissection that the cords in the heart called nerves by Aristotle are not nerves and have no connexion with nerves. Doubtless in meeting the speculations of the philosophers he often fell into the weakness of answering a fool according to his folly. At the special request of his friends, he says, he followed the philosophers into their own field and showed that he could spin out logic and quote poetry with the best of them. But I must try to give some idea of the strange intellectual atmosphere in which Galen upheld so manfully the standard of scientific truth. The followers of Chrysippus, a stoic philosopher, are, says Galen, not ashamed to assert that when we wish to indicate emphatically "I myself" we lay the hand upon the heart or nod the head downwards pointing to the chest, whence it follows that the heart is the principal seat of the soul.[15] Chrysippus drew the same conclusion from a fantastic idea about the movement of the lips in pronouncing the word ἐγώ. Galen here gives an interesting statement of his own views of the right kind of reasoning in science too long to quote. His conclusion is that arguments from the opinion of men, whether of the vulgar or of poets, or of philosophers, and arguments from nodding or not nodding your head, and arguments from words are all bad arguments, most nearly allied to the sophistical kind. It is a bad argument to say that the heart must be the supreme organ of the body because it is in the centre of the body, and equally bad to say that the head is the supreme organ because it is on the top. Enough is said to show that his standard of scientific reasoning was perfectly sound, judged by the criteria of Bacon or Mill.

Another wild theory of the philosophers founded perhaps upon an obscure passage of Aristotle was that the voice proceeded from the heart. Galen explains as we should now that voice is produced by an expulsion of air caused by the movements of the thoracic walls (which he clearly understood to be the cause of the movements of the lungs not *vice versa*) modified by the movements of the larynx, both organs being controlled by nerves coming from the brain.[16] "When I tell them this," he says, "and add that all voluntary movement is produced by muscles controlled by nerves coming from the brain, they call me παραδοξολόγος "a teller of marvellous tales" and have no argument beyond the simple assertion that the trachea is near the heart. But what I say I can demonstrate by dissection. Their method of simple assertion is much easier. They have chosen," he exclaims, "the short and easy way instead of the long and arduous way which alone leads to the desired end; but the short and easy way fails to attain the truth," a phrase in which we seem to hear an echo of words better known to us about the broad and the narrow way. "No one," he goes on, "has ever been able to withstand me when I have demonstrated the muscles of respiration and voice. The muscles move certain organs but they themselves require, in order to be moved, certain nerves from the brain, and if you intercept one of these with a ligature immediately the muscle in which the nerve is inserted and the organ moved are rendered motionless. Whoever is really a lover of truth, let him come to me, and if only his senses are unimpaired he shall see clearly on the animals themselves that free or normal inspiration is caused by certain organs, muscles, and nerves, and forced inspiration such as occurs in disease and in violent exercise, when we see the shoulder blades raised by other muscles; and so with expiration. Also I will show you the organ of voice, the larynx, its motor muscles and the nerves of those muscles coming from the brain; and similarly with the tongue, the organ of speech. I will prepare several animals, and show that sometimes one, sometimes another, of these activities is abolished when the several nerves are divided." Indeed, Galen wrote a special book on the dissection of the nerves in order to show students how to verify these facts for themselves.

If there were time it might be shown that his method in the investigation of the brain was the same. He was indeed a little impatient with the doctrine of Aristotle on this subject and no wonder. When met by the Peripatetics with the assertion that the magnificent human brain served no better purpose than to cool the heart, Why then, asks Galen, have we this complex structure, these membranes, blood-vessels, cavities, glands, nerves, when for the purpose of cooling only it ought to have been made like a kind of sponge, inert and shapeless?[17] Other obvious arguments occur, but Galen's demonstration of the functions of the brain rested on the experiments he made on living animals. He found that various injuries to the brain immediately abolished sensation and movement, and was aware of the law that injury to one side of the brain affects the opposite side of the body. He traced the effect of cerebral lesions on the voice and on respiration as well. But if the heart was injured in the same way none of these things happened; indeed sensation, voluntary movement, and the voice were set in violent activity, as we may well imagine, in the animals experimented upon.[18] His actual conclusions I need not dwell upon, though it is clear that his conception of the brain and the nerves in relation to sensation and voluntary movement were essentially the modern ideas. It is evident from the nickname given to him that his ideas were regarded as new and strange. Galen's experimental investigation of the spinal cord by sections at different levels and by half sections was still more remarkable. It is quite modern in precision and completeness, but I cannot dwell upon it now.[19]

As regards his method, although it is now the fashion to praise Aristotle and depreciate Galen, it is clear that Galen's methods were far more scientific than those of his predecessor. Instead of dim adumbrations and analogies we have actual experimental proof. Galen was, in fact, a modern experimental physiologist, and may rightly be regarded as the founder of the physiology of the nervous system. Haeser, indeed, goes so far as to call him the founder of experimental physiology in general.[20] It was long before he had any rival in this field. His own immediate successors seem to have dropped the experimental method, as, indeed, the whole idea of scientific investigation. On the revival of anatomy Vesalius and his contemporaries practised vivisection, closely imitated from Galen, but established nothing in nerve physiology. Harvey published nothing about the nervous system. Willis re-constituted the anatomy of the brain, but added little experimental with regard to its functions. It is not till we come to the days of Sir Charles Bell and Magendie that we find anyone comparable to Galen as a nerve physiologist.

It is surely evident, then, that the conception of Galen as an ancient philosopher whose errors were exploded by Harvey is totally unjust. He was Harvey's most brilliant model and forerunner in one side of his work—the experimental—just as Aristotle was in another side—that of observation and generalisation. We cannot, I think, look without sympathy upon the spectacle of Galen wrestling with the philosophers, striving to bring them to the evidence of fact and the teaching of nature. There are many other references in his writings to the same combat of experiment and observation against theory and tradition. But it does not seem that his efforts were of much avail. Philosophy went its way independent of him. The Peripatetics never learned to dissect or the Stoics to use scientific arguments. What was worse, the theoretical and traditional method infected Medicine itself. For a thousand years after Galen's death there were well-educated and learned Greek physicians, some of them acquainted with anatomy, in the Western and more especially in the Eastern

[15] De Placitis, ii., cap. 2, Kühn, p. 216.

[16] De Usuium Partitis, vii., 5, Kühn, iii., 525. De Placitis, ii., 4, Kühn, ii., 233.

[17] De Usu Partium, viii., cap. 3, Kühn, iii., 624.

[18] De Placitis, vol. i., p. 6, Kühn, vol. v., p. 185.

[19] De Administrationibus Anatomicis, vii., caps. 6, 9, Kühn, ii., pp. 683, 696. He refers also to the lost Book xiv.

[20] Galen's application of his physiological knowledge in the diagnosis of disease is very striking. He always makes it his first object to determine the organ or part affected by means of the functional disturbance. Thus he infers the height of a lesion in the spinal cord by noting whether the upper or lower limbs, the diaphragm, intercostal muscles, &c., are paralysed, a method familiar to us, but unknown in the last century. In physiological diagnosis he stands alone among the ancients.

empire. Practical medicine possibly advanced, as practical surgery certainly did, but scientific progress there was none. All was copying and compiling from the ancients, from Galen most of all; though he never enjoyed among the Greeks that position of absolute predominance which was his lot among the Arabians and in mediæval Europe. To enquire into the causes of this decay of originality and progress in medicine would be a long question which I feel incompetent to discuss. All assigned causes seem to me somewhat inadequate, beyond the trite remark that the Greek genius seemed in some way exhausted. We know only that there are in the history of thought germinal epochs when new thoughts and new discoveries arise, often followed by long tracts of time in which men are capable only of repeating and copying, not of originating, just as in a plant there are nodes where alone buds, leaves, and flowers are put forth, and then internodal spaces with none of these. The botanist cannot explain the one nor can the historian the other. But in regard to medicine I cannot see that this barrenness and the long reign of dogma were, as sometimes supposed, the fault of Galen's system. Other writers have shared the same faults but by no means the same fate. It has not been their lot to be the autocrat of the medical world for so long. The fault was, as I said before, in the time; it was the subservient spirit of the Arabians and the mediæval Europeans, and not his own demerit, that raised Galen to that bad eminence. It was the same with Aristotle, who, through no fault of his own, became the intellectual monarch of the middle ages in another field. In the case of both these great, though of course unequally great, men the excessive adoration paid to them was succeeded by unjust neglect. They deserved neither the one nor the other. For Aristotle the reaction is come, and though no longer adored he receives due honour. For Galen I think the day of restitution cannot be long delayed. He was not one of the great geniuses of the world, but very high in the second rank. He was one of the most illustrious of all physiologists, and among the ancient physicians we may still allow him the old honourable epithet so often used, "*Omnium medicorum secundum Hippocratem facile princeps.*" For our great Harvey we need not fear that his noble shade would be troubled at this tribute paid to his brilliant predecessor. His mind was too generous, and, indeed, it increases his praise, for to have succeeded where other acute intellects failed is the greater honour. Harvey himself warmly acknowledged what he owed to Aristotle, and if he mentioned Galen less it was because the force of circumstances made him his opponent. But at this distance of time we can see plainly that it was hardly necessary to mention him, for in so many places his work is taken for granted.

As I remarked in the beginning, all great work is based on work done before, even where the results appear to be different. And so we arrive, I venture to suggest, at the generalisation that all high thought is really continuous. The magic of literature brings together thinkers widely separated in space and time, and as one magnet makes other magnets so the activity of one great mind sets other minds in vibration. The polarity of the second magnet may be opposite to that of the first, and so the result of the induced intellectual activity may be contradictory to that which set it in motion; but the one was nevertheless derived from the other. The moral is, I think, that the influence of the past on the present is even more potent than we commonly suppose. In common and trivial things we may ignore this connexion; in what is of enduring worth we cannot. As Goethe says,

> "Nur im Vergangenen lebt das Tüchtige
> Verewigt sich in schöner That."
>
> (All that has worth lives only in the past,
> Becoming immortal in splendid activity.)

Hence the Past is worth our study, and ever more so the further we advance. This is, indeed, a growing sentiment. Even, or rather more especially, in this age of restless innovation and bewildering scientific progress, the study of the past, whether of nature or of society, in geology, archæology, or history (all embraced under the one head of evolution), is gaining a firmer hold on men's interests, and, inspired by better methods, has acquired wider scope and vision. With the revival of history in a wide sense there is evident a renewed interest in the history of medicine, a study in which our own country, it must be confessed, has done less than any other of the greater civilised states. As a small contribution to this history I have endeavoured to bring before you, however imperfectly, this sketch of the relations of Harvey to his predecessors.

An Address

ON THE

JUBILEE OF THE PATHOLOGICAL SOCIETY OF LONDON.

Delivered before the Pathological Society, Oct. 20th, 1896,

BY HENRY T. BUTLIN, D.C.L., F.R.C.S. ENG.,
PRESIDENT OF THE SOCIETY.

GENTLEMEN,—Exactly fifty years ago—for it was on Oct. 20th, 1846—the Pathological Society of London held its first meeting. THE LANCET devoted a short leading article to the event, which it related in the following manner:—

"The christening of the Pathological Society was performed on Tuesday last in a very commodious room at 21, Regent-street, before a large and excellent company. Dr. C. J. B. Williams (University College) fulfilled the duties of minister, and Dr. Bentley (of Guy's) and Mr. Ward (of the London Hospital) executed the honourable office of clerks. The part of godfather was very widely shared. Numerous gifts were made on the occasion, none of them, it is hoped, significant by their condition of the future health and strength of the society. One donor offered an apoplectic brain, another the bones of a dismembered fœtus, a third a strictured œsophagus; others a diseased pharynx, a fractured femur (!), and a lacerated heart. The contributions, however, were instructive and valuable. The ceremony was attended by between sixty and seventy relations bearing the family name of 'Member' and nearly double the number of 'Visitors,' who on the 3rd of November will have the opportunity of witnessing the effect of a fortnight's growth of the infant Hercules. The rites were all performed with due solemnity until Mr. Liston, with a characteristic effort to procure a better view of one of the presents, trod for a moment on the toes of Dr. Peacock—a painful proceeding, which, however, considering the weight of the worthy surgeon's foot, was borne with equally characteristic patience."[1]

It is clear from this somewhat humorous account that the first meeting of our society consisted in the exhibition and examination of specimens after the manner determined on by those several gentlemen (members of the profession) to whom had long appeared to be desirable "the establishment of a society which should devote itself specially to the cultivation of pathology, and render more generally available for this purpose the extensive opportunities afforded by the numerous medical charities of the metropolis."[2] The by-laws and regulations declared that "the Pathological Society of London is instituted for the cultivation and promotion of pathology, by the exhibition and description of specimens, drawings, microscopic preparations, casts, or models of morbid parts." And the fourth by-law provided "that, in the remarks made in reference to specimens exhibited, all discussions on abstract points be as far as possible avoided; and the topics of diagnosis and treatment be not introduced farther than is necessary to illustrate the pathology of the subject."

It must not be supposed that before the formation of this society there was no study of pathology in this town or country. Excellent books based on pathology existed in the lectures of Sir Benjamin Brodie and in the works of Sir Thomas Watson, Dr. Williams (the first president of this society), Dr. William P. Addison, and others. And admitting that these had only recently been published, and that the works of foreign writers, such as Lebert, were not largely read in this country, there were still to be found the admirable works of Carswell and Bright, of Guthrie and Baillie, with those of John Hunter himself, which were not so old that they were considered to be out of date. Many of the men who wrote these books and other able pathologists were attached to the London hospitals; and to show that pathology was not wholly neglected there it may suffice to mention that the teaching

[1] THE LANCET, Oct. 24th, 1846.

[2] Report of the Council presented Feb. 1st, 1847, to the first general meeting of the society.

of pathology at Guy's Hospital was in the hands of King and Hilton; that Todd lectured on physiology and general and morbid anatomy at King's College Hospital; that the lecturer at University on pathological anatomy was Dr. Walshe; while Dr. Munk lectured on pathological anatomy at St. Thomas's Hospital; Dr. Seth Thompson at the Middlesex Hospital; and Mr. Paget lectured at my own hospital (St. Bartholomew's) on morbid anatomy and physiology, and made the post-mortem examinations. Under such guidance there was little fear that the students would not be led aright. But, on the other hand, it must be confessed that only six of the London schools in the year 1845 professed, in the prospectus which they issued, any teaching in pathology, and I suspect that the teaching in all the medical schools was rather a mingling of pathology with other subjects, and that there was little or no quite special teaching of pathology, for Dr. C. J. B. Williams laments, almost grumblingly, the lack of a pathological basis for the medicine learned by the students of that period. I judge, too, that pathology had not long previously begun to be studied with more zest than formerly, for Sir Benjamin Brodie wrote in 1839: "The more extended cultivation of morbid anatomy is one of the most peculiar features of modern times. It has laid the foundation of a more accurate system of pathology than that which existed formerly and has led to many improvements in practice."[3]

I do not know whether London was behind other large towns in the study of pathology, but it is certain that our Pathological Society, which I had hoped was the first of its kind, was founded partly because similar societies had already been very successful in some of the large towns of the realm.[4] The Dublin Society particularly had attained a success which was worthy of emulation. Everything seems to point to the belief that, although there were distinguished pathologists in London in the year 1846, and although there were excellent works and papers on various subjects in pathology, the study had not yet taken a fair hold on the minds of students of medicine and of practitioners. Even the hospital physicians and surgeons of the day were disposed to regard the study of pathology with contempt and as of little use in the practise of their art. Indeed, more than twenty years after the period of which I speak there can be little doubt that the assistance which a knowledge of pathology may lend to medicine and surgery was still wholly unappreciated. I can remember, as if it were only a few days ago, Mr. Paget (whose house surgeon I then was) saying as we passed from the wards one day: "I cannot understand how men can say that a knowledge of pathology is of no use in surgery." And a distinguished surgeon who took an interest in my career advised me not to have too much to do with the Pathological Society, lest men should come to think that I had no interest in surgery. In such matters fifty years have made a vast change. In the place of a few good works on medicine and surgery founded on a knowledge of pathology our students have treatises devoted to the study of pathology alone, and the best foreign works on pathology have been translated into English, and are within the reach of students and practitioners of medicine. There are journals devoted to pathology and books and journals which treat only of special branches of pathology. Pathological laboratories have been established in most of the hospital schools and professorships of pathology have been created. Pathological research has from various sources been endowed with no inconsiderable sum of money in scholarships and grants. A good knowledge of pathology is regarded as an essential qualification to success in practice of every physician or surgeon who aspires to a leading place as a consultant. And the specialisation of pathology grows so fast apace that we are in danger of falling into the opposite extreme to the condition in which we stood fifty years ago, and of seeing all things medical and surgical only through the aperture of pathology, and even of resigning to the pathologist, or at least to the bacteriologist, the whole duty of diagnosis and treatment of disease. It is difficult to estimate the precise influence which this society has exercised on the advance of pathology during the last half century; and, as I have sought to do so, I have been almost disappointed not to be able distinctly to say, This and this step in advance were the work of the Pathological Society of London. Indeed, I do not know that I can claim for our society one single discovery in pathology or show that it, either through its discussions or by the work of any of its committees, was the first to bring to light any great new fact in pathology. Yet of its influence on the progress of pathology I can have no doubt. To say nothing of the regular exhibition of specimens and the discussion on them during the fifteen meetings in the course of every winter and spring, or of the larger discussions which were instituted and the stimulus to work and thought which they must have given, I regard our transactions as the most valuable series of records of morbid anatomy which the world possesses. They contain more than 7350 communications, of which more than 1100 refer to diseases of the heart and organs of the circulation, 1100 to diseases of the digestive tract and system, 1000 to the genito-urinary tract, 600 to tumours and morbid growths, besides innumerable cases of morbid growth under various other headings. And these 7350 communications are illustrated by more than 2700 drawings on 730 plates, of which 133 are coloured or partly coloured, and by several hundred woodcuts and figures in the text. Although the communications are not the work of a single pathologist, and their accuracy is not guaranteed by the society, I do not know that they suffer on that account. Some of them are probably not so complete or so correct as they might be. But a very large number of them are published by men who were, or still are, experts on the particular subject which they exhibited and illustrated. The descriptions in the text are for the most part singularly complete in detail; the illustrations are generally remarkably good, especially when it is taken into account that they are, both macroscopic and microscopic, more often the work of amateurs than of professional artists. Naturally, although the intention of the founders of the society, that "all discussions on abstract points be as far as possible avoided" (By-law 4), and the "topics of diagnosis and treatment be not introduced farther than is necessary to illustrate the pathology of the subject" (By-law 4), has been to a great extent observed, still, fortunately, the communications have not been limited to the mere description and illustration of morbid specimens. The relation of the particular communication to the prevailing theories of the day has been discussed, or the specimen has been exhibited, to support some new theory. Consequently our Transactions present a sufficiently faithful mirror of the pathology of the last fifty years, sometimes liquid, sometimes solid, sometimes cellular, and of late teeming with bacteria. In order to assist exhibitors and to afford the stamp of authority to certain communications, the Council of the society in the year 1866 appointed a committee on morbid growths and deposits. The first report of the committee was presented in April, 1867, on Dr. Moxon's case of malignant disease of the gall-bladder, and was signed by two past Presidents, Dr. Dickinson and Mr. Hulke. From that time to the present the Morbid Growths Committee has been steadily at work, and its reports have been, and still are, regarded with peculiar respect on account of the care which has been expended on them and the names which have of late years been attached to them. The scope of the committee's work was after a time widened, and for the last twenty years morbid specimens of all kinds have been submitted to it for examination and report. To render further assistance to exhibitors a Chemical Committee was appointed in 1873 and from time to time has presented valuable reports. In addition to the two standing committees special committees have been appointed, such as that on the "Nature of the so-called Lardaceous Disease," whose report was published in 1871; that on "Displaced, Movable, and Floating Kidneys" in 1876; that on the "Infective Processes known as Pyæmia, Septicæmia, and Purulent Infection" in 1878, the importance of which was so far recognised that the Local Government Board granted a sum of £350 to assist the inquiry; another on the "Structure of Arteries and Capillaries in Bright's Disease with Contracted Kidneys" in 1878; on "Diseases of the Lower Animals" (which was afterwards made into a standing committee, the Comparative Pathology Committee); on the "Nervous Centres in Diabetes"; on "Intra-cranial Tumours"; and last, but by no means least, in the Session 1880–81, a committee to examine the whole of the Volumes of the Transactions, and to obtain information where it was possible to obtain it to complete past communications. This committee was formed on the suggestion of the President, Mr. Hutchinson, and I trust that by-and-bye

[3] Lectures Illustrative of Various Subjects in Pathology and Surgery. London. 1846.

[4] The Reading Pathological Society, from which we have to-night received a congratulatory address, was founded in 1841, and was the first Pathological Society in Great Britain. The Dublin Society was founded in 1839.

a similar committee may be formed to carry on up to date this admirable work of completion. To the same active, able President we owe another innovation—the introduction of "card specimens." They were intended to relieve the plethora of material from which the society sometimes suffered seventeen or eighteen years ago.

In the year 1873 a discussion on pulmonary phthisis was opened by Dr. Wilson Fox, and occupied three sittings of the society. Since that time debates or discussions, for the most part profusely illustrated, have been held on similar lines, on syphilis, diabetes, intracranial tumours, chronic alcoholism, phagocytosis and immunity, and other subjects; and the reports of these debates add to the value of the Transactions. For they have generally served to "fix" the opinion of the profession on the subjects which were debated.

I confess, gentlemen, when I regard the goodly array of volumes of our Transactions—forty-six in number—I am filled with pride, and say to myself—Had the Pathological Society of London existed for no other object than to produce this work it would have well deserved all the time, the trouble, and the money which have been expended on it. If I meet with a rare case in practice, and wish to know whether, and by whom, similar cases have been observed, I search through our Transactions, where, if I find a similar case recorded I am almost sure also to find the best account of the disease, not clinical perhaps, but—to my mind far more valuable—pathological. In collecting cases of morbid growth for analysis, I have found the best cases for the purpose, and the greatest number of them, in the Pathological Transactions. And, what has been my experience has been the experience of every searcher and writer who has aimed at presenting a complete account of his subject during the last thirty years; whether his work has been in general or special medicine and surgery; on inner or outer pathology; in English or in other language. I venture to declare that it would be impossible to write a complete work on medicine or surgery without being indebted to a large extent to the Transactions of our society. And, if the Pathological Society of London ceased to exist to day, it would still leave behind it a vast store-house of records of pathology and morbid anatomy, which are likely to be of value to the medical profession for more than fifty years to come.

In an adjoining room are collected, by the kindness of some of the exhibitors and the courteous permission of the Royal College of Surgeons and the medical schools, specimens, drawings, and casts, with the object of illustrating some of the important work of the society. It has not been possible to collect all the specimens which might justly be termed historical, for many of them have been destroyed, and the abode of others could not be discovered; but amongst them I may point to those illustrating the morbid anatomy of inherited and visceral syphilis, Addison's disease, Hodgkin's disease, fibroid disease of the heart, concretions in the appendix, aneurysms in vomicæ. And let me say that, although the original communications on some of these diseases were not made to the Pathological Society, the exhibition of, and discussions on, specimens illustrating them which took place at the meetings of this society had far more effect than the original communications in establishing the pathology of these diseases. This is particularly true of Addison's disease, the relation of which to affections of the supra-renal capsules was really established through the medium of our society.

In the midst of this survey of the past it is impossible not to perceive that the society has in some respects reached and passed the climax of prosperity—for the present, at least. The smaller average attendance of members at its meetings, the smaller size of the Transactions during the last few years, and the fewer applications for new membership, all tell this tale. And to those who are interested in the prosperity of the society they naturally suggest grave questions. Are fifty years to our society what they are to many men, just a few years beyond the middle period of life, and is our altered state but an example of that slow atrophy which marks the gradual decay of some old people? Pathology can never grow old, but the need for a society to promote the study of pathology may gradually be growing less and in the course of a few more years may wholly cease. I scarcely think that this is so, for there is no sign of the decline of age in the character of the communications made to the society or of impaired vigour in the discussions. I am much more disposed to attribute the changes which are taking place to other causes, particularly to the specialisation of pathology which has taken place during the last ten or fifteen years. The renewed impetus to experimental pathology, the new science of bacteriology, and the development of pathological chemistry have carried a large part of pathology beyond the reach of the many men who formerly not merely made a large part of the average attendance, but contributed a large proportion of the communications to the society. There has been more pathology, less morbid anatomy, of late. And, whereas every one of the 700 members of the society might feel an interest in a morbid specimen and many might have something to say on it, comparatively few members take an immediate interest in an experimental inquiry or bacterial research, and only experts are able seriously to discuss them. And, as the pathology of the next period is likely to become more and more chemical, it seems probable that the Pathological Society will receive a goodly number of chemical communications which will, again, attract but small attendances and few discussers. For some reasons one might be inclined to regret this, as tending to carry the study of pathology gradually more and more away from the study of medicine and surgery. But it is useless to do so, and if it were not useless it would be unhandsome on our part to do so. For to specialisation we owe the very existence of this society, and I have no doubt there were some who, fifty years ago, thought that there was no proper place for a society for the promotion of the study of pathology—which is, after all, only a part of general medicine and surgery—and that the communications which would be presented to this society ought to have been presented to the Royal Medical and Chirurgical Society or to one of the other societies at that time existing in London. I do not know how else to account for the absence of the names of certain men at that time distinguished for their researches in pathology. Few people then would have predicted that the society would ever number 700 members.

A review of the past fifty years would not be complete if it did not take into account certain charges and complaints which have been made against the society. It has been abused for not encouraging pathology in its widest sense, and for having been devoted throughout to the study of morbid anatomy. The "soup-plate" meetings have from time to time been mocked at, and the decline of the society has been predicted because it showed no disposition to enter on what has been spoken of as "modern pathology." I believe the term "modern pathology" was intended to imply chiefly experimental pathology, which is only so far modern that it has received a considerable impetus of late years. It would, of course, be easy to take refuge from this charge by shewing that the intention of the founders of the society was to make it a society for the demonstration of specimens and of drawings and casts, and that this intention has been scrupulously carried out. But I prefer to attribute the scarcity of communications on experimental pathology to a different reason—they are only rarely attractive to the majority of the members who are in the habit of attending the meetings. They have, therefore, not been welcomed and discussed as the readers of the communications thought that they deserved to be. The consideration of this matter naturally leads to a study of the functions and capabilities of such a society as this. As I understand them, they are to offer every facility to exhibitors and to writers of communications, and particularly to encourage and enable them to illustrate their communications and to present them publicly in such a manner as to render them acceptable and useful to the members of the society and, later, to those who study the Transactions. The meetings afford opportunity for criticism and discussion; and the funds of the Society enable the authors to publish and illustrate their communications at the common cost. But the officers of a society cannot promise a hearty reception to any individual communication, however good it may be; and the author has to take the chance of this, although he may be, and often is, materially assisted by the secretaries, whose experience enables them to judge whether a communication is likely to be well received or not. Very abstruse communications, the reading of which can only be followed with great difficulty, and communications which are loaded with detail and which are difficult to illustrate, are for the most part better fitted for the lecture-room or for the pages of a journal than for the meetings of a society, and are seldom listened to or discussed either here or at other societies by a large number of persons. I would venture to impress this particularly on

communicators to this society, and to urge them to illustrate their communications as fully as possible, whether the illustrations are intended or needful to be published in the Transactions or not. But I think such a society may go further and provide for the illustration, discussion, and publication of any new work which has already obtained a hold on the minds of medical men or which appears likely to do so. This has been done from time to time in the arrangement for a discussion and by invitation to an author to bring for exhibition and demonstration the material on which his work has been founded. Naturally the success with which this branch of the work of a society is conducted must depend partly on the vigilance and activity of the officers of the society. This society has never had funds at its disposal with which it could assist original workers in pathology.

The part which our society will play in the work of the future will, I trust, be a continuation of the work of the past fifty years—to afford every facility to the authors of communications on every branch of pathology. I have already suggested that the greater specialisation of pathology in the present day and the consequent necessity of special training for the higher branches of pathology may cause a diminution in the number of persons attending the meetings of the society, and perhaps even of the number of members. The communications will probably not have the same interest for practitioners, only a few of whom will be able to take part in the discussions. In this respect our society may come to resemble some of the special medical societies which have been established within the past few years—attractive to specialists and to medical men who are concerned in the particular specialty in which the society is interested. It is possible that the science of pathology may make more rapid progress from this meeting together and discussion by special pathologists and persons deeply interested and well instructed in pathology; but I should be sorry to find that practitioners of all kinds, general and special, should cease to take an active interest in the work of this society. The late Dr. Hadden spoke of its "educational function," and I am quite sure that it has proved of very great advantage to many men in busy practice, who have not been able to keep up their connexion with their hospitals, and really has served to popularise new work in pathology.

From many points of view it is very desirable that some means should be taken to connect the study of pathology more closely with the practice of medicine and surgery; not merely to maintain the interest of the practitioner in the study of pathology, but also to ensure an earlier application of new discoveries in pathology to the practice of medicine and surgery. At present we have, on the one hand, a number of men, particularly of young men, engaged in scientific research the relation of which to practical medicine and surgery is not immediately apparent to them. On the other hand, there are many men, for the most part older, engaged in the practice of the various branches of medicine and surgery, but, from various reasons, unacquainted with the new scientific work which might lend so much assistance to their practice. We need an intermediate class of workers acquainted with the work of the laboratory and in regular attendance in the wards. And I should like to see departments of *applied pathology* established in the hospitals and served by some of those younger men who are waiting to become attached as physicians and surgeons, and who, after two or three years spent in the teaching of anatomy and physiology, sometimes find it difficult to fill in the waiting time with work which is sufficiently interesting on the one hand and likely to be useful on the other hand. What better training could such men have than the study of the application of pathology to practical medicine and surgery? What work more useful to others or to themselves? What work more interesting or absorbing to fill the years of waiting for place and practice? What training more likely to develop physicians and surgeons fit to occupy the highest posts in hospital and medical school? Mingling in the ward work of the hospital, constantly observant of successes and still more of failures in practice, charged with the carrying out of some special investigation, and provided with opportunity and material, the men serving such a department would form that very connecting link between the laboratory and the wards which is so much needed.

The instant application of every new theory or statement in pathology to the practice of medicine and surgery would be a grievous error; but the too slow appreciation and application of confirmed theories and statements appears to be almost a crime. And even the confirmation or refutation of new theories and statements in pathology which may have an important bearing on practice is often terribly long deferred. An example of what is meant is afforded by the tardy and almost unwilling acceptance of the latter researches of Heidenhain, Stiles, and others on the anatomical course of cancer of the breast. If these researches are correct, the methods of operating for cancer of the breast which have been pursued hitherto have not been scientifically directed to the completest and most thorough extirpation of the disease; and when they have been successful, have been successful, so to speak, by chance. Only one surgeon, so far as I am aware, has deliberately designed his operations on the information afforded by Heidenhain—Dr. William Halsted of the Johns Hopkins Hospital in the United States, and he has published results far superior to those of any other surgeon. Admitting that sufficient time has not yet elapsed to prove the greater success of Halsted's operation, and that the statements of Heidenhain must be received with caution, yet the matter is surely worthy not merely of some attention but of repeated observations in all parts of the world, to check the work of Heidenhain, with the object of proving or disproving his theories and statements. The comfort and, it may be, the lives of thousands of unfortunate women afflicted with cancer of the breast may hang on the correctness of such researches and on their application to the surgery of the breast; yet I venture to say that very few surgeons in active practice are acquainted with Heidenhain's work, and, of those who are, some decline to accept his statements, while others are waiting patiently until they have been slowly proved. If the question were one of business and of the saving or the making of money such applications would not be left to hazard and deferred for years; the observations would be tested and experimented on and applied at the earliest possible period. In this respect it is very interesting to compare the application of Pasteur's and of Lister's work. The French professor's discoveries were speedily taken advantage of by brewers, wine manufacturers, and farmers, with enormous benefit to industry and agriculture. Professor Lister's discoveries, founded on the researches of Pasteur and applied to surgery, made their way slowly and with difficulty in the course of many years. They were received with distrust, the statements and results denied or belittled, and every effort was made to prevent them from becoming the basis of scientific surgery. Their ultimate triumph makes the tardiness of their acceptance the more regrettable. In the greater separation which appears likely to take place between pathologists and practitioners, such an intermediate class of workers as I have indicated will become almost a necessity if the results of pathological research are to be aptly and speedily applied to practice. And I hope that our society may lend important aid in this respect by arranging amongst its other work for exhibitions and discussions of such pathological work as is likely to have a direct bearing on the improvement of medical and surgical practice. It has already done so on more than one occasion—for example, in the exhibition and discussion of intra-cranial tumours at the moment when the surgery of such tumours was prominently before the profession.

To those who object to the introduction of any utilitarian element into scientific work I would reply that, while I should regard it as a great misfortune that no piece of scientific work should be undertaken unless its direct bearing on practice could be demonstrated, a utilitarian object need not in the least impair the quality of scientific work. Amongst many proofs which might be given let two suffice: the invention of the safety-lamp and the discovery of the nature of silkworm disease. The invention was undertaken by Sir Humphry Davy and the discovery was made by Professor Pasteur in answer to urgent requests on the part of persons interested, and with a distinctly utilitarian object. Both the invention and the discovery, while they were directly successful in saving life and money, were the result of, and resulted in, excellent scientific work. We in our profession have the best possible excuse for desiring the rapid application of scientific discovery to practice; for the application is not for the saving of money, but for the saving of human life and suffering.

ROYAL LANCASTER INFIRMARY.—The accounts of the bazaar held in July have just been closed. They show that the very substantial sum of £3374 has been cleared after the payment of all expenses.

SEWER-AIR POISONING.[1]

BY F. W. BURTON-FANNING, M.D. CANTAB., M.R.C.P. LOND.,

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As we do not possess any comprehensive account of the possible effects of sewer-air I have thought the following cases worthy of publication.

CASE 1.—A youth aged nineteen years was seen in consultation with Mr. Charles Williams in 1892. Nine weeks previously he had pain in the limbs; a rash appeared on them, but the joints were not obviously affected. After a few weeks at the seaside he improved; he was then seized with a rigor and next day we saw him. He complained of severe pain throughout his arms and legs; the temperature was 104° F., with a morning fall of about two degrees. The bowels were constipated, but he took nourishment well, without nausea. There was a petechial rash on the extremities; there were also visible distinct red lines, about a quarter of an inch in width, running from the knees to the groins, where the lymphatic glands were enlarged; similar red streaks occurred on the arms and the axillary glands were shotty. The first sound of the heart was reduplicated and later a temporary diastolic bruit appeared. The urine was of specific gravity 1023, contained one-eighteenth albumin, and many hyaline and hyalo-epithelial casts were present. He remained in about the same serious condition for fourteen days and then began to improve; after another fortnight, however, he suddenly had an exacerbation, the temperature rose to 106°, he had four rigors in forty-eight hours, and died. This patient had frequently complained of bad smells in his room and it was found that an untrapped pipe led from the main sewer to beneath his window, and in the adjoining room the bath-waste pipe led also directly into the sewer.

CASE 2.—A middle aged man was seen with Mr. Burton, whose children had been similarly affected, but who quickly recovered on leaving their home. The patient's illness had commenced two months previously with a shiver, pains in the limbs, sore-throat, and fever, which were at first ascribed to influenza. However, for two months with the utmost regularity his temperature reached 102° F. every evening, falling again after midnight to normal. The feverish period was always accompanied by severe shooting pains in the calves, which were disproportionately wasted; the sensation and knee-jerks were normal. A fine petechial rash was present on the feet. The spleen was palpable below the costal arch. The urine contained neither albumin nor casts. The smoke test revealed the fact that the patient's study and bath-room were in direct communication with the sewer. He was removed to another house at once, but his illness lasted thirteen weeks and left much prostration to be slowly recovered from.

CASE 3.—This was much less severe in degree and occurred in the person of a young man whom I saw with Dr. Watson. For three months he had suffered from oppressive frontal headache with pain and suffusion in the eyes, which came on every day about 5 P.M. Besides slowly increasing languor the only other manifestations of his illness were fever—100° F. in the evening—enlargement of the lymphatic glands in the groins and neck, with faint red lines on the arms, three patches of erythema annulare on the forearms, and the presence of hyaline casts in non-albuminous urine. Before my visit the patient had undergone a thorough course of treatment with quinine and iodide of potassium, the inefficacy of which helped my insistance on an examination of the drains. A disused soil-pipe was found under the floor which was damp with sewage. Within a week of leaving this house the temperature declined and the other symptoms gradually disappeared.

CASE 4.—A man aged forty-five years, whom I saw with Dr. Watson, had noticed his susceptibility to bad smells and had complained of an odour in the house. He began having pain in the neck and back of the head, with an evening temperature varying between 99° and 102° F., the height corresponding with the severity of the headache. There was a distinct red line up the flexor aspect of one forearm and the inguinal glands were slightly enlarged. The urine contained a trace of albumin and some hyaline casts. The watercloset near the patient's bedroom was found to be foul and defective and the pipes were untrapped. Within a few days of leaving this house all symptoms improved.

CASE 5.—For the inclusion of this case I am again indebted to Dr. Watson. A main sewer was opened twenty yards from the patient's shop and the smell was complained of. The next day he vomited and had headache and slight fever. The following day he had pain in the right leg, and distinct lymphangitis was found along the course of the internal saphena vein, with enlargement of the femoral glands. I did not see him till four days afterwards, when he was nearly well, and I then found nothing abnormal in the urine.

CASE 6.—This patient, a woman, who was seen with the late Mr. Vincent at Dereham, had been ailing for a year. She had been obliged to keep her bed for the last month, with an evening temperature of about 102° F. Her chief complaint was pain in the back, which shot through to the epigastrium; this bore no relation to food, but occurred in severe attacks, which often ended in vomiting. She had pain in the head and legs, and there had been lymphangitis on the fronts of the thighs with enlarged femoral glands. She suffered from exudative tonsillitis. The urine contained a few small hyalo-granular casts, but no albumin. In the yard, where she often worked, was found an overflowing cesspool. She began to improve within a few weeks of the removal of this nuisance.

CASE 7.—A man was admitted into Addenbrooke's Hospital under Professor Bradbury, to whom I am indebted for permission to examine and record the case. The patient had been standing for three weeks at work in offensive liquid sewage and was suddenly seized with pain and numbness in the legs. He had headache, vomiting, and shiverings. On his admission the pains were his chief complaint, but nothing abnormal was detected in the legs except a few purpuric spots. He became jaundiced, the urine was scanty and contained one-fourth albumin, bile pigments, and granular casts. The liver was a little enlarged and he had some bronchitis. He had an irregular temperature curve for three weeks, between 102° and 98° F. He left the hospital well after two months. Mr. Cobbett kindly undertook to examine bacteriologically this patient's blood and urine. From the former he obtained no growth, but from the latter a considerable number of colonies developed. Among these were three kinds of organisms; two Mr. Cobbett considers were staphylococcus aureus and albus, while the third was a short bacillus, which he was unable to identify.

CASE 8.—A young woman was admitted into the Norfolk and Norwich Hospital with fever, some weakness, and emaciation. For three months she had suffered from frequent headache and epigastric pain with and without food; she had menorrhagia also, for which no local cause was found. For twenty-eight days she had an evening temperature of about 102° F., while the morning temperature varied between 98° and 100°. This was her only marked symptom. She had temporary phlebitis, slight enlargement of the spleen, and albuminuria for a few days. Typhoid fever, tuberculosis, and other forms of blood-poisoning having been excluded, I ascertained that she had complained of constant smells in the kitchen where she worked, next to which was a blocked and defective watercloset. She left the hospital after six weeks and slowly regained strength at home.

CASE 9.—A boy six years old was admitted into the Jenny Lind Infirmary for Sick Children. He had been suddenly seized with epigastric pain and dyspnœa. He had slight œdema of the eyelids and feet, but the prominent symptom was profound prostration, any movement inducing faintness. The pulse was 140 and often became so weak as to be uncountable. The throat was normal and his knee-jerks present. There was uncontrollable vomiting, which increased the alarming dyspnœa and faintness. The urine was scanty and contained one-eighth albumin; it was not examined for casts. The temperature was 101°F., but became subnormal before death, which occurred from heart-failure on the fourth day of illness. At the necropsy were found moderate gastro-enteritis and hyperæmia of the spleen and kidneys. Microscopic sections were made of the heart and kidneys. The former showed no marked change, but the latter manifested that of acute tubular nephritis. A visit to the patient's home elicited the fact that an especially bad smell had been noticed in the yard on the day before his illness. The sanitary inspector had already been sent there on account of a case of diarrhœa attributed by the attending medical man to insanitary surroundings.

[1] Abstract of Thesis for M.D.

A privy bin had been allowed to become full of very offensive excrement.

CASE 10.—A previously healthy boy aged four years was suddenly attacked with severe vomiting, which persisted and formed the chief symptom throughout. There was also distressing pain in the epigastrium, which became tender. The temperature ranged about 100° F. The patient continually asked for water, which was usually at once rejected. The urine was scanty and albuminous. He became restless and prostrated and died on the fourth day. The house drain was found not to join the sewer, but to empty itself into the soil of a yard, in which the patient had spent a considerable time each day.

CASE 11.—A boy aged nine years had fever for over three months, the evening temperature averaging 102° F., while in the morning it was one or two degrees lower. At first he also had headache, slight tonsillitis and constipation, with pale motions. There was once heard a doubtful pericardial rub, but otherwise slowly progressive anæmia and weakness were the only symptoms in addition to the fever. After excluding typhoid fever and tuberculosis Mr. Candler decided that it was sewer-air poisoning, and found that smoke permeated freely from the drains into all the rooms of the patient's country home owing to extensive cracks in the pipes. For two months he was thought to have been convalescing at the seaside, but even there his evening temperature was occasionally raised. Then without exposure to cold he developed simple pleural effusion with an initial temperature of 104°, which became absorbed in a few weeks. I believe this pleurisy was also due to sewer-air poisoning and that it illustrates the tendency of this trouble to lie dormant and then recrudesce. At the same time a brother suffered from jaundice accompanied by malaise only.

In reviewing these cases one is first met with the difficulty of proving their dependence on sewer air. My opinion of their nature is based on the following facts: they did not conform to any described disease, they presented many features in common amongst themselves, in the surroundings of all the cases some grave sanitary defect existed, and the removal of this was followed in most of the cases by recovery. On analysing their symptoms we find that fever was present in all the cases. As a rule the temperature was hectic in type, and in three cases with its daily remissions a remarkable abatement of the other symptoms concurred. Three of the patients had rigors. As one would expect, headache was a prominent symptom, but more noteworthy were pains in the limbs and elsewhere. Two of the patients also had pain in the back and one had pain and stiffness in the neck. The two children had severe epigastric pain. Petechiæ were noticed on the lower extremities of three severe cases; in another there was erythema annulare. Of the eight adult patients five had lymphangitis on the legs or arms, with enlargement of the neighbouring glands but without any wounds. It is to lymphangitis that I wish to especially draw attention, as I do not think its occurrence in this class of case has been previously noted. In one case there was phlebitis. In two cases there was a suspicion of peri- or endo-carditis. In two children cardiac asthenia was the prominent symptom; by both I was forcibly reminded of the syncope of diphtheria. Pleurisy was, I believe, a late manifestation of sewer-air poisoning in Case 11. I have noted its occurrence twice among neighbours of the above patients. Bronchitis was present in three cases. Excessive vomiting was only present in two of the children; to a less extent it was present in two adults; while in another two nausea was complained of. In only one case did diarrhœa occur. In three cases the spleen was enlarged, and in one of these the liver was also affected. In this case there was jaundice, which was also present in the brother of Case 11. In one case there was menorrhagia. My cases confirm the late Sir George Johnson's [2] observation of the occurrence of albuminuria in sewer-air poisoning. The urine was examined during the height of the illness in ten cases and in six albumin was found. In other two cases where no albumin was present casts were found. Acute nephritis was found in the one necropsy made. Of the ten cases, therefore, only one presented no evidence of renal affection.

It is interesting to compare the above cases with a few recently published examples of the supposed effects of sewer air. Dr. Webber's [3] patient was a child aged four years who had sore-throat and fever. The tonsillitis improved, but anæmia and threatened syncope remained and the heart became dilated. The liver was enlarged and the abdomen was tender, and in a few days the urine became albuminous and scanty. The child became apathetic and died on the fourteenth day. Dr. Sharp and Mr. Summerskill [4] record the case of a child aged eight years whose first symptoms were dyspnœa, œdema of the face, and frequent micturition. The urine was scanty and of a chocolate-brown colour, with masses of amorphous hæmoglobin and a few red corpuscles under the microscope. Faintness and anæmia were noted, but the patient made a good recovery. Mr. Jollye [5] writes of two cases of chorea caused, he thinks, by sewer-air poisoning, in one of which and in another member of the family valvular lesions of the heart presented themselves. A "Member" [6] believes that sewer-air poisoning was the cause of death in a child who for twenty-four hours had violent purging and vomiting, slight rash, without other symptoms of scarlet fever, and whose necropsy revealed only gastro-enteritis.

Excepting Mr. Cobbett's results in Case 7 I have no light to throw on the nature of the *materies morbi* in these cases. In some removal of the cause is at once followed by improvement, while in others weeks elapse before the symptoms begin to abate, and for an indefinite time recrudescence may occur. In this latter group a micro-organism is probably the agent; while in the others the poison may be of the nature of a volatile ptomaine or alkaloid.[7] The work of Parry Laws, Andrewes, Haldane, Carnelly, and others points to the bacteriological innocence of sewer-air.

As regards diagnosis I would emphasise the importance of bearing in mind the possibility of sewer-air poisoning when attempting to determine the nature of a doubtful case. Other causes of continued fever must be excluded, and perhaps the recognition of some of the above symptoms may help. In my experience typhoid fever, ulcerative endocarditis, and rheumatism are the most difficult to exclude. Case 1, for instance, simulated ulcerative endocarditis, but the cardiac bruit was only temporary, and there was the highly characteristic lymphangitis. Case 8 was thought to be typhoid fever, but the three months' previous illness and the temperature chart negatived it. Case 7 somewhat resembled "Weil's disease," but it occurred sporadically and under circumstances which it was hard to ignore. The treatment consists in removing the cause, and preferably, I think, by changing the patient's home, as diffusion of the noxious emanations often follows the necessary operations for its rectification. Quinine, sodium salicylatum, salol, and other antiseptics appear to me to be useless. But I do think that the tincture of the perchloride of iron was of benefit in several cases.

Norwich.

[2] Brit. Med. Jour., March 3rd and July 14th, 1893.
[3] THE LANCET, Sept. 22nd, 1894.

THE PRODUCTION OF POTENT DIPHTHERIA ANTITOXINS.

BY G. E. CARTWRIGHT WOOD, M.D., B.SC. EDIN.

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IN the interesting lecture on the Serum Treatment of Diphtheria, by Dr. Sidney Martin, which was published in THE LANCET of Oct. 17th, the great importance of using only the most powerful antitoxins was so clearly shown that I think it may be interesting to indicate briefly how this antitoxin was produced, and why we may expect that much more potent forms of the remedy will shortly replace the weaker serums now in use. The use of more powerful antitoxin not merely lowered the death-rate, but greatly lessened the number of cases of paralysis following on the disease. When employing the weaker antitoxin in 1895 the death-rate was reduced by 11 per cent., while in 1896, when more powerful antitoxins were injected, the mortality was reduced by 18·5 per cent., thus showing an additional decrease in the mortality of almost two-thirds on that recorded in the previous year. This indicates that this proportion of the more severe cases, or of those brought under treatment in the later

[4] THE LANCET, Dec. 9th, 1893.
[5] Brit. Med. Jour., vol. i., 1896, p. 269.
[6] Ibid., vol. i., 1895.
[7] THE LANCET, Feb. 9th, 1895.

stages, in which the weaker antitoxin is inefficient, can still be brought under control by the use of more potent serums. He is also of opinion that large doses of the serum may prevent the recurrence of these sequelæ, but says that a decided opinion on this question could only be arrived at after a more extended experience. Under these circumstances it is important that these potent serums should be placed within the reach of the public as soon as possible and at a reasonable cost, since Behring's serum of this quality appears to cost £1 11*s.* 6*d.* a dose, which undoubtedly must restrict its extensive use.

In a communication to the Royal Society (London) on Feb. 20th, 1896, and which was also published in THE LANCET,[1] I described a method by means of which diphtheria antitoxins could be more rapidly produced than they had been in the methods previously described. This result was accomplished by injecting the horses with the diphtheria albumose described by Dr. Sidney Martin, which, though not at all a deadly poison, renders the animal very rapidly resistant to the disease. When the horse, on the other hand, is injected with the so-called ferment toxin which had been previously employed the animal is so susceptible to the poison that only very small quantities can at first be injected and the amount only gradually increased from time to time, so that the treatment extends over several months before a serum of any value can be obtained. On the other hand, when the horse has been subjected to the albumose treatment for a fortnight it is able to withstand large doses of the so-called ferment toxin, and at the end of the month yielded a serum which was at that time regarded as sufficiently powerful for the treatment of diphtheria. This serum contained 100 or 125 normal units of Behring in one cubic centimetre, and 1000 units would thus be present in a dose of 10 c.c. or less. In the same communication I stated that it was possible not merely to shorten the period of treatment, but that I hoped also to produce much more powerful serums than had been previously the case. In support of this I showed the rapid rise in the antitoxic value of the serum of four horses which had been undergoing the ordinary treatment for from six to nine months. The new method consisted in taking advantage of the cumulative action of the poisons so that through frequent injections of the toxins the horses were kept continuously under their influence and the cells accordingly in a condition of active stimulation. I have now had nine horses under this treatment and the number of normal units of Behring present per c.c. in their serum is set forth in the following table.

Antitoxic Value of Serums.

Number of horse.	Number of normal units present per c.c.	Quantity protecting against ten lethal doses of toxin.
Horse No. 1	1000	$\frac{1}{10000}$th of a c.c.
Horse No. 2	450	$\frac{1}{4500}$th ,,
Horse No. 3	400	$\frac{1}{4000}$th ,,
Horse No. 4	200	$\frac{1}{2000}$th ,,
Horse No. 5	200	$\frac{1}{2000}$th ,,
Horse No. 6	175	$\frac{1}{1750}$th ,,
Horse No. 7	150	$\frac{1}{1500}$th ,,
Horse No. 8	80	$\frac{1}{800}$th ,,
Horse No. 9	50	$\frac{1}{500}$th ,,

The strengths of the serum given in this table were estimated in the usual manner on 250-gramme guinea-pigs, and I have since then ascertained, by comparing the toxin employed with some standardised by Professor Ehrlich, that their strength was rather under-estimated than otherwise. In the case of horse No. 1 the serum has been estimated directly by Professor Ehrlich's test toxin and found to contain the number of normal units (1000 per c.c.) claimed for it. It is at once evident from this table that all horses are not alike as regards their capacity for producing powerful antitoxins; indeed, they vary in the most startling manner. It is at present impossible to give any explanation of this fact, and in my opinion only a very extended experience, based on actual experiment on a large number of horses, could possibly give any indication as to those which were most likely to prove suitable for the purpose. After a certain period of treatment a limit seems to be reached, and the value of the serum can be increased, if at all, only with the greatest difficulty. In addition to this, the antitoxicity of the serum from certain horses is liable to fall in value very quickly. It is evident from this accordingly that only a certain proportion of the horses experimented with can be expected to produce antitoxins which we should now regard as best adapted for the treatment of diphtheria. It will be seen from the table that out of nine horses only three furnished a serum of sufficient potency to contain 4000 units in a dose of 10 c.c. or less. It was one of these (Horse No. 1) which yielded the serum used by Dr. Martin in the treatment of his cases. The number of horses experimented with is of course far too small to permit of our forming any reliable estimation on this point; the proportion of horses producing strong antitoxin may be greater or even less. The method which I should recommend, and which is now being adopted in the production of antitoxic serum for the Metropolitan Asylums Board, is to get rid of such horses as prove unsuitable as soon as the limit of their antitoxin producing power has been tested, and in this way form gradually a "stud" yielding the higher-grade serums.

The only high-grade serums at present on the market are the extra potent serums sent out by Behring, which contain 3000 units in a dose of 5 or 6 c.c. This serum, which contains 500 and 600 units per c.c., is apparently only produced in very small quantity from the difficulty experienced in obtaining it; and the price, as already stated, places a great obstacle in the way of its general use, even were sufficient quantities on the market. This may be explained as due to the fact that under the ordinary method of treatment six or seven months must elapse before an opinion could be probably formed as to the suitability of any special horse, and this naturally presents a great difficulty as regards the weeding-out of unsuitable horses and selecting those capable of supplying the more potent serums. This difficulty is, however, overcome by a method which shortens the period of treatment. The use of the albumose instead of the so-called ferment toxin, as I have described, enables this to be done more rapidly and, at the same time, with less expense.

In my opinion, accordingly, the question of the production of a high-grade serum would be solved by the additional expense which would be incurred in weeding-out the horses which could not be raised to the required standard and in obtaining fresh horses until a sufficient number of those producing high-grade antitoxic serum had been selected. A certain time, however, would have to lapse before such potent serums would be available in this country and the Laboratories Committee of the Royal Colleges of Physicians of London and Surgeons of England (where these experiments were carried out) have had under consideration the question as to whether a certain amount of this serum might be distributed among the hospitals in London, where the more severe cases come under treatment, the cost of which would be defrayed out of the grant so generously made to the Colleges for such a purpose by the Hon. the Goldsmiths' Company, London.

The investigation was assisted by a grant from the Goldsmiths' Company's Fund, and I have also to thank Dr. Woodhead for enabling me to carry out on a practical scale a method which had proved so successful during the experiments, and to apply it to the horses which were supplying serum to the Metropolitan Asylums Board hospitals.

Balham, S.W.

NOTES ON FOUR CASES OF PYLOROPLASTY.[1]

BY RUTHERFORD MORISON, M.B. EDIN., F.R.C.S. ENG. AND EDIN.,

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MANY stomach cases not benefited by medical means are amenable to surgical treatment. The most satisfactory of these are due to stricture of the pylorus. Loreta proposed in 1882, and has performed with success, the operation of stretching the stricturd pylorus from within through an opening in the anterior stomach wall, but his operation in-

[1] Two cases were exhibited at the annual meeting of the Northumberland and Durham Medical Society on Oct. 8th, 1896.

seldom heard of now. The dangers of it, performed, as it must be, in the dark, are such as to have prevented its general acceptance. The operation known by the name of pyloroplasty, suggested and adopted almost simultaneously by two operators—Heineke and Mickulicz—and said to be now given up by both of them, has, I believe, a permanent place in surgery. The notes of my first case were published in THE LANCET,[2] where full details of the case and of the operation I performed were given. A short summary of the conditions present in these cases, after consideration of each and all of them, may be of further use as directing attention to an ailment more common than is usually recognised, and one which only surgery can satisfactorily deal with.

With regard to diagnosis, in all there was a history of dyspepsia of many years' duration and recent rapid loss of weight. There was vomiting, preceded by pain, and a swelling appeared in the epigastric region. A larger quantity of material was vomited than was taken into the stomach, and the vomited matter was offensive or sarcinous in character. The pain and the swelling in the epigastrium were both relieved when the stomach was emptied by vomiting. There was evidence of a much dilated stomach on palpation, percussion, and auscultation. Occasionally the stomach could be seen to form a rounded swelling with peristaltic movements in it, and could be felt to harden at the same time. In two of the cases (1 and 4) a distinct hard nodule could be felt in the pylorus. In the other two (2 and 3) an indefinite but distinct sense of resistance in the neighbourhood of the pylorus was perceptible.

The diagnosis of these cases from cancer involving the pylorus is so difficult that I believe it to be impossible at present. With the pylorus outside the abdomen between my finger and thumb I have been unable to say whether the tumour and the induration present were due to malignant disease or to inflammatory hardening and cicatricial contraction. A long history would, of course, be against malignancy, and this appears to me to be the most important element in the diagnosis. Marked scarring of the stomach wall and adhesions in its neighbourhood would also be in favour of a non-malignant origin. The great majority of cases with the symptoms and signs I have described appear to be due to cicatricial contraction following ulceration in the pyloric end of the stomach. The operation—in some cases easy, but in others, as in Case 3, presenting difficulties of the gravest character—to be performed for their cure is to make a longitudinal incision from the stomach through the pylorus and into the duodenum, to convert the longitudinal incision into a transverse one by traction at the centre of the incision, and to retain it permanently in this position by sutures.[3] The result of the operation is that the old pylorus forms only a small portion of the new outlet, which will admit two fingers.

CASE 1.—The patient was a woman aged forty-eight years, sent by Mr. Sheraton of Sedgefield and Dr. Drummond. Previously to operation she weighed 5 st. 1 lb. She could retain no food. The operation was performed on Oct. 16th, 1894. At the present date the patient weighs 9 st. 7 lb., and looks and feels in perfect health.

CASE 2.—This was a woman aged thirty-seven years, a patient of Dr. Dickie and Dr. Buncle of Morpeth and Dr. Drummond. There was a history of prolonged ulceration of the stomach, with obstructed pylorus. The symptoms were aggravated by washing out the stomach. (Here I should like to emphasise a point, for this has been the least successful case of the series. All the successful ones were relieved by washing out, and it seems not unlikely that this sign may mean that active ulceration is still present.) Previously to the operation the patient weighed 8 st. 12 lb. The operation, which was performed on Oct. 17th, 1895, was a very difficult one, for the stomach was firmly adherent to the anterior abdominal wall, and the structures in the neighbourhood of the pylorus were matted together. The patient left for home on Nov. 2nd. For the first month after the operation there was not much improvement. In the next fortnight she gained 16 lb. in weight and all the old symptoms disappeared. She continued well till the middle of January, 1896; she was then ill for twelve days. On May 8th last Dr. Buncle writes: "She recently has been ill again; vomited, evidently blood somewhat altered; had circumscribed pain and considerable tenderness over the region of pylorus, and is living on peptonised milk." These symptoms, of course, point to a return of the stomach ulceration and may not interfere with the ultimate success of the operation.

CASE 3.—This patient was a man aged thirty-one years, sent by Mr. Sutherland of Rainton and Dr. Drummond. Previously to operation he weighed 7 st. 6 lb. 5 oz. He was very feeble and anæmic, although naturally a big, strong man. The operation, which was performed on Jan. 3rd, 1896, was very difficult, for the colon, pylorus, duodenum, stomach, and omentum were matted in one firm, hard mass. The colon was opened by mistake, for all anatomical landmarks were obliterated. Mr. Sutherland tells me that he met the patient in the street two months after the operation and did not know him so great was the improvement in his condition. He has gained three stones in weight and his health is restored.

CASE 4.—This was a patient of Mr. Martin of Darlington, a woman aged fifty-nine years. Previously to operation she weighed 5 st. 7 lb. 4 oz. The operation took place on April 12th, 1895. On May 6th she weighed 5 st. 5 lb. 7 oz., and on June 9th 6 st. 3 lb. She is now able to eat all kinds of food.

The relation of my cases sustains surely the belief I have expressed that this operation has come to stay. No cases in abdominal surgery have given me more satisfaction than these. In each case recovery from the operation has been without incident and the first and third cases have been veritable resurrections.

Newcastle-on-Tyne.

[2] THE LANCET, Feb. 16th, 1895.
[3] For further details see THE LANCET, loc. cit.

EXCISION OF A LARGE CARBUNCLE OF THE BACK; SALIVATION FROM CYANIDE GAUZE DRESSING.

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THE treatment of carbuncle by excision commends itself more than any less thorough method, and the number of cases recorded by Mr. Rushton Parker, who is the advocate for the proceeding in this country, encourages one in treating the condition by total extirpation of the gangrenous tissues.

On July 17th, 1894, a woman aged fifty-two years was admitted into the Liverpool Royal Infirmary, suffering from a carbuncle between the shoulders, apparently a little larger than the palm of a hand, from which pus was oozing through many holes. The surrounding tissues were œdematous and inflamed, and pressure applied two inches from the suppurating orifices caused more pus to exude; it was clear that the subcutaneous tissues were extensively involved. She appeared to be very weak and feeble; she looked very miserable and suffered great pain. The pulse was, however, very fair, and the urine was normal, so it was resolved to operate at once. A large supply of sponges was got ready and placed in very hot (1 in 40) carbolic lotion. An anæsthetic was administered and a circular incision six inches in diameter was rapidly made down to the muscles, hoping to clear the gangrenous tissue. The incision was quickly packed with sponges wrung out of the lotion as required. The sloughing mass was rapidly cleared off the deeper structures, a portion of the trapezius being sacrificed on account of its condition, and the whole cavity packed with sponges. An inspection of the edge of the portion removed showed suppurating points at each side, so a further crescentic portion was taken away towards each shoulder. The incision was now seen to have gone through clean, though inflamed material. The vessels which required ligature were few in number and were exposed and easily clamped by quietly peeling out the sponges one by one, each area being thoroughly attended to before the next sponge was removed. The aperture was an irregular oval nine inches by five inches and a half, the long axis being transverse. The total loss of blood was smaller than anticipated. The wound was packed with sponges wrapped in cyanide gauze, and a large pad of wool was placed over all under a tight bandage, to control some oozing that was taking place. The next morning the patient was wonderfully better. On the third day some suppuration occurred at the left side of the wound, where a small sinus

with sloughy walls were found; this was carefully carbolised with 1 in 20, and a bran poultice (in muslin) well dusted with powdered borax was applied over a thin layer of cyanide gauze (a convenient form of antiseptic poultice) and continued until the tenth day, when the patient's temperature ran up to 102° F. The wound was granulating everywhere, so a cause for the elevation of temperature was sought elsewhere. This was found in the state of the mouth; the breath was fœtid, the gums were inflamed and suppurating around the teeth, two of which were loose, and an ulcer existed on the mucous membrane of each cheek, with a small one on the tongue. Mercurialisation was at once diagnosed and the cyanide dressing was discontinued, one of boracic lint under absorbent cotton-wool being substituted and chlorate of potash used as a gargle. Next day salivation was profuse, so glycerine of alum and glycerine of borax were added to the mouth wash. She steadily improved, but the salivation continued for a week with an evening temperature of 101°. The wound slowly cicatrised and progressed favourably, but owing to a slight general lichen, liquor arsenicalis was prescribed in doses of three minims each with ten grains of bicarbonate of potash. The rash disappeared in a week, to be followed by colicky diarrhœa with tenesmus four or five times a day. The arsenic was suspected, discontinued, and the intestinal trouble at once subsided. It took three months for the wound to completely cicatrise, and a thin exfoliation separated from the seventh cervical spine. The amount of contraction of the scar was smaller than would have been expected, and she had no difficulty in freely moving her arms and flexing the neck.

Mercurialism from cyanide gauze used as a dressing must be rare. This appears to be the first case occurring in the infirmary where the gauze has been extensively used since its introduction. No other preparation of mercury had been used in any shape or form, so we were forced to this conclusion, and the steady subsidence of all the symptoms on removal of this cause confirmed this. Seeking for a further reason why this patient should have suffered, Mr. J. R. Johnson, dispenser to the infirmary, made some investigations as to the solubility of cyanide salt and reported as follows:—"Cyanide salt is slightly more soluble in hot than in cold water but not to any marked extent up to 180° F. It occurred to me that the borax used in the preparation of the poultice (it is freely powdered on) might influence the solubility, and experiments bear this out in two series of tests. In each case one gramme of cyanide was placed in six ounces of water in which had been dissolved one gramme of borax. One such solution was kept at the ordinary temperature, the other heated to 180° F.; both solutions kept for twelve hours. They were then filtered, and the filter paper was dried and weighed. These experiments were performed twice with the same result—viz., that in the hot solution the cyanide had lost 0·25 gramme more than in the cold. Mercury was estimated in the filtrate as sulphide of mercury and the hot solution contained 0·27 gramme more than the cold (0·23 gramme on the second trial). Thus it appears that cyanide salt is one-quarter more soluble in hot solution of borax, although the borax solution was very dilute (cyanide salt is one-quarter its weight soluble in hot solution of borax)."

Here, then, we have an explanation and a warning at the same time—one appears to have met a patient whose susceptibility to metallic drugs was further marked by the ready production of arsenical symptoms after the administration of Fowler's solution in three minim doses. The notes of the case were taken by Mr. J. R. Johnson and Mr. H. M. Henderson, surgical dressers.

SOME VACCINATION FACTS.

BY CHARLES S. PATTERSON, M.B. EDIN., M.R.C.S. ENG.

IN these days, when the anti-vaccinationist has become a factor in politics, and has, strange to say, received some support from a limited section of our profession, it is a duty to bring before the profession all statistics which will prove or disprove the efficacy of Jenner's method of preventing and modifying small-pox. I will, therefore, make no further apology for publishing the following data, which I have obtained from my friend, Mr. S. L. Hinde, late Surgeon to Baron Dhanis' Expedition (sent by the Congo Free State against the insurgent Arabs, 1891-94). Small-pox broke out amongst the men in February, 1893, communicated by infected persons driven out of the Arab camp. To show the gravity of the epidemic one cannot do better than quote the bulletin of the Royal Belgian Geographical Society: "Encore, ceux-ci étaient-ils décimés chaque jour par une violente épidémie de variole. Durant cette épidémie le Dr. Hinde, qui avait fait toute la campagne, fit un triage parmi les prisonniers arabes et en tira 300 soldats pour remplacer ses morts et ses malades. Il fut toutefois obligé de rester cinq mois à Kassongo pour organiser ses ravitaillements, préparer la suite de campagne, et attendre des renforts."[1] Of the whole camp, i.e., soldiers, auxiliaries, camp-followers, prisoners, women and children, about 25,000 in all, one-half took the disease, of which half about one-third died. Of the half that escaped many had had variola at some time previously or had been inoculated according to the Arab method. This method, which is extensively used throughout Central Africa for slaves, consists simply in making an incision in the skin of the forehead, and inoculating small-pox virus therein. The disease is heralded by the appearance of a pimple rising at the spot on the second day, and passing on into a pustule on the eighth day, the general small-pox eruption appearing on the eleventh or twelfth days, which passes through the ordinary stages. The disease so induced is supposed to be mild, but even then the mortality is over 50 per cent. The value of the slave is, however, so greatly enhanced that despite the great mortality the slave-traders almost universally practise it. The scar on the forehead gives a plain indication that this operation has been performed.

After this short digression, let us resume the study of the cases under observation in a more exact manner. The following figures are extracts from the official returns, which are given as regards each company or group separately. In the Haoussa (Houssa) Company, consisting of 103 men, all but one of these were vaccinated. The unvaccinated man, and he alone, took small-pox and died from it. Each of these soldiers had at least one case in his harem. In the Monorovian (natives of Monrovia) Company, consisting of 7 men, all unvaccinated, 4 took small-pox; 1 recovered and 3 died. In the Elminas Company, consisting of 56 men, all were vaccinated save 2. The 2 unvaccinated alone took the disease; 1 recovered and 1 died. In the Manzanga Company, consisting of 200 men, only 2 were vaccinated (about one-half, however, had been previously affected or had been inoculated); 100 took the disease and 17 recovered, amongst which latter were the 2 vaccinated cases.

I have turned these figures into percentages:—

—	Attacks.	Deaths in affected cases.
	Per cent.	Per cent.
Haoussa Company, vaccinated (102)	Nil.	Nil.
Haoussa Company, unvaccinated (1)	100	100
Monorovian Company, all unvaccinated (7)... ...	58	75
Elminas Company, vaccinated (54)	Nil.	Nil.
Elminas Company, unvaccinated (2)	100	50
Manzanga Company, vaccinated (2)	100	Nil.
Manzanga Company, unvaccinated (198)	50	82·24

That is to say, of 158 vaccinated men 2 only took small-pox—that is, 1·26 per cent.; whereas among the unvaccinated men, 208 in number, 105 took the disease—that is, 50 per cent. Of those affected not one vaccinated person died, whereas the death-rate amongst the unvaccinated was over 78 per cent. To argue against vaccination facts like these must be met, taken from the records of countries where small-pox is still a scourge and vaccination is not compulsory.

Highbury-place, N.

[1] La Campagne Arabe au Congo, pp. 19 and 20. Extrait du Bulletin de la Société Royale Belge de Géographie, 1894, No. 5.

UNIVERSITY OF OXFORD.—The Michaelmas Term Examinations (First and Second alike) for the degree of Bachelor of Medicine will commence on Dec. 11th, and will be concluded on Dec. 19th. The Secretary to the Boards of Faculties will receive the names of candidates at his office in the Clarendon Building at any time not later than 10.30 A.M. on Nov. 27th.

A CASE OF PANCREATIC GLYCOSURIA.

BY MALCOLM MACKINTOSH, M.D. GLASG.

IN March, 1893, a previously healthy man was suddenly seized while at work with a sharp pain at the lower border of the ribs on the left side in the line of the nipple. He became faint and breathless and the pain was increased by each inspiratory effort. Next day there was some fever, dyspnœa, and pain in the side, whilst percussion at the left base was dull, the respiratory murmur was distant, and vocal resonance and fremitus were diminished. The heart was not displaced and its percussion-area was normal. Over the whole of this dull area a coarse superficial crepitus was heard at the end of inspiration, due, as subsequent events proved, to peritoneal friction. After three weeks' rest in bed the man got well and resumed work as usual. It may be added that during this attack the patient lost over fourteen pounds in weight. Cough and expectoration were both present, but the former was not particularly troublesome and the latter was scanty, whilst the fever, which never reached a point higher than 102° F., gradually declined, until at the end of ten days it had altogether disappeared. On making particular inquiry subsequently the man stated that the pain and the cough had left him, his former standard of weight was again reached and slightly surpassed, the appetite was good but not voracious, thirst was not abnormal, and the secretion of urine remained as it always had been. The man's explanation of the attack was that he had strained himself while lifting a heavy sack, his reason for saying so being that he felt the pain come on almost immediately afterwards. On Aug. 20th of the same year the patient complained of pain in the head, back, and limbs, but went to work on the 21st, 22nd, and 23rd, when he was obliged to give up. He then complained of headache, backache, and pain in the left iliac region just above the crista ilii, in which region there was slight tenderness on pressure, but no swelling could be detected. The temperature was 102° and the pulse 120 and feeble. On the 24th the whole of the base of the left lung, both in front and behind, was dull to percussion, the breath sounds were distant, though not entirely absent, and the apex beat was plainly to be felt to the right of the sternum in a straight line with the nipple. From these signs and symptoms the conclusion was arrived at that the left pleural cavity contained fluid. On the 25th an abundance of sugar was found to be present in the urine, and for the next four days he passed between 140 and 200 ounces of urine in twenty-four hours, of specific gravity 1035 and loaded with sugar. Thirst was very troublesome and the tongue was thickly coated, dry, and cracked. The pulse was weak and rapid, and faintness was readily induced by the slightest movement. Dimness of vision supervened a day or two after the sugar was discovered, and an herpetic eruption made its appearance at the left angle of the mouth. The bowels acted regularly, but the character of the evacuations was not noted. There was no jaundice. As regards the physical signs, it may be said that the dulness cleared up slightly, whilst the respiratory murmur was heard more distinctly over the affected area, and the position of the apex-beat remained as it had been. The splenic dulness could not be satisfactorily determined owing to the distension of the abdominal viscera with gas, and the stomach contained such a large amount as to give rise to the suspicion of pneumothorax. Decubitus was during the whole course of the illness on the right side or on the back, but preferably the former. During the next three days the patient became gradually weaker and more and more apathetic; the evacuations were passed unconsciously and the fever and glycosuria still continued. On Sept. 1st, although there were no symptoms calling urgently for the removal of the fluid in the pleural cavity, it was thought advisable to use the aspirator on the chance of the effusion being purulent. Fifteen ounces of odourless reddish-brown fluid were removed, the needle being inserted in the mid-axillary line; but this proceeding gave no relief, and the patient sank into a comatose state, death following two days afterwards, on the fourteenth day of the illness and eleven days after sugar was discovered in the urine.

Necropsy. — The necropsy took place thirty-six hours after death, and although the weather was very hot and the body was in a small, close room there were no external signs of decomposition, nor was there any very decided wasting either in the muscular or adipose tissues. On opening the chest recent pleural adhesions were found all round the base of the left lung, involving both the diaphragm and the chest wall, and the pleural cavity contained two ounces of reddish-brown fluid. The adhesions were broken down with comparative ease, and it was noticed that the lung as a whole was pushed upwards towards the clavicle, so that its apparent bulk as compared with that of its fellow was very appreciably diminished. On removal of the lung it was found that the lower lobe was deeply congested, but crepitant and buoyant. The air vesicles contained a quantity of frothy mucus, but otherwise the organ was healthy. The right lung showed no pathological alteration, there being a complete absence of tuberculous disease in the thoracic cavity. The pericardium contained a small quantity of serous fluid and the heart was healthy, though it also was pushed to the right by the same cause which produced displacement of the lung. The dome-shaped bulging of the diaphragm, to which reference has been made, was entirely confined to the left side of the floor of the thoracic cavity, upon which it encroached equally in all directions, occupying a space rather larger than a good-sized orange. Upon opening the abdomen the stomach and intestines were considerably distended, but the peritoneal cavity was free from fluid, nor was there any trace of recent lymph effusion. The whole of the organs occupying the left half of the abdominal cavity, however, were matted together and bound down to each other and to the abdominal wall and diaphragm by old strong adhesions. The left portion of the omentum was adherent to the œsophageal end of the stomach, and the latter was firmly bound down behind and also in the direction of the spleen. So firm were the adhesions that the organs could only be removed by dissecting them out. The spleen was embedded in a mass of similar material and was ruptured in the effort to dislodge it. To all appearance it was healthy and of normal size and weight. Below and behind the spleen a large fluctuating mass was felt, which on being opened was found to contain about two pints of thin, sticky, slimy-looking fluid, none of which, unfortunately, was preserved for examination. The cyst was multilocular, and extended backwards towards the vertebral column and inwards towards the middle line behind the stomach and left lobe of the liver. Besides the fluid already mentioned there was a large quantity of recent lymph which could be extracted in masses of from three to four inches in length. No calculi were present. The pancreas was almost entirely destroyed, the only trace of it that could be found being a small piece of pancreatic tissue in the upper and posterior part of the wall of the cyst. The liver was normal. The left kidney was difficult to find as it was lying behind and below the cyst, and it also, like the spleen, was bound down by adhesions. The right kidney was in its normal position and both were healthy. No sign of disease could be discovered in the stomach or intestines.

It is evident that the old-standing peritoneal inflammation, exudation, and adhesion which were made manifest at the post-mortem examination occurred at the time of the first illness in March whatever the cause of that may have been. It is to be regretted that the urine was not on that occasion examined for sugar, but it is at the same time certain that there were none of the symptoms of glycosuria present which were so marked during the fatal illness. On consideration of the fact that the spleen, colon, and left kidney were all in working order while the pancreas was disorganised it seems reasonable to suppose that the cause of the disturbance is to be found in the latter; and from the sudden onset and subsequent history of the attack it would certainly seem that hæmorrhage had taken place into the pancreas in the neighbourhood of the tail, this being followed by pancreatitis confined to the left half of the organ and spreading to the neighbouring peritoneum; or else that a previously existing pancreatic cyst had taken on inflammatory action which spread to the tissues in the vicinity. Perhaps on the whole the latter is the more likely supposition, both on account of the distinctly one-sided direction which the inflammatory process followed and from the absence of any cause, such as injury or diseased bloodvessels, which would be likely to produce hæmorrhage, though it is difficult to believe that a man could engage in laborious work for six months on end with a mass of exudation in the abdomen such as was present in this case without presenting a single symptom of disease.

The course of events in the fatal illness probably was that

inflammation was once more started in the old spot, being originated in all likelihood by an attack of influenza, which at that time was rife in the district; effusion of fluid followed, and the whole of the pancreas was destroyed by the mechanical pressure exerted by the exudation. This case would seem to corroborate the conclusions arrived at by experiments on the dog—viz., that glycosuria only follows when the whole of the organ is destroyed or removed.[1]

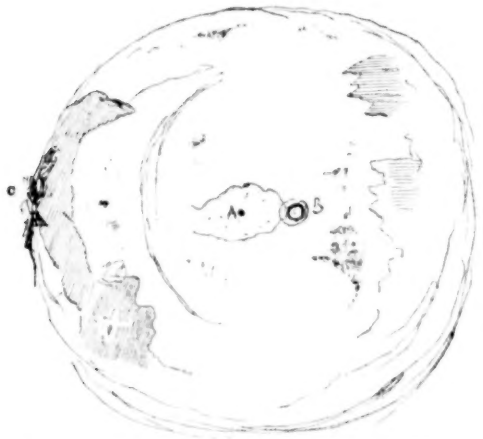
Sisters avenue, S.W.

THE EYE-SIGHT OF THE LATE MR. DU MAURIER.

BY ROBERT BRUDENELL CARTER, F.R.C.S. ENG.,
CONSULTING OPHTHALMIC SURGEON TO ST. GEORGE'S HOSPITAL.

IT has long been a matter of common knowledge that the late Mr. du Maurier suffered from impairment of sight, and that his charming work as an artist was accomplished under difficulties which would have proved insuperable to weaker men; but it is probably not known how much those difficulties were of a kind calculated to force themselves continually upon his attention, and to excite and maintain anxieties with regard to what the future might have in store for him. I think it will interest the profession to see a reproduction of a sketch which he made for me in the middle of 1895 as an illustration of his own visual state. I should premise that his left eye had no perception of light. Its vision was destroyed, totally and almost suddenly, many years ago by detachment of the retina, and the blindness thus produced was followed by opacity of the lens. The right eye was myopic to 1·50 D., with normal central vision when the myopia was corrected, and was able to read brilliant type unaided. It was, however, the subject of frequent photopsia, subjective sensations of light of a very varied character, and its field of vision was broken by the appearances which he sketched—an appearance of lines, spots, or clouds, distributed as shown in the drawing. The fixing point, A, was surrounded by an irregular line, forming an ellipse with its major axis horizontal and extending to the blind spot, B, and within this ellipse small dark spots were irregularly distributed. On either side the field was bordered by dark shading, which was most conspicuous on the nasal side, as at C. The result was that he could not look upon any uniformly illuminated surface, such as a sheet of white paper, without being reminded by these appearances that one retina had become useless and that the other was by no means in a satisfactory state.

FIELD OF RIGHT EYE.



A, Centre with scars of old scotoma all round. B, Punctum cæcum. +, Sight very imperfect. C, Black, varying in shape, and only visible now and then—since a fortnight.—G. DU MAURIER, July, 1895.

In consideration of his one-eyed condition I did not think it desirable to dilate his pupil, a proceeding almost necessary to the discovery of inconspicuous retinal changes in the macular region, and all I could see with the ophthalmoscope was that his choroid was rendered visible by want of pigmentation in the external retinal layer. In reasoning upon the case it seemed to me that the appearances which he drew and described corresponded with retinal areas which were not blind, but only of subnormal sensibility to light. If the areas had been blind there would have been no consciousness of them, no more than there is of the normal blind spot. If we have dirt spots on a piece of paper, and look at it by transmitted light, the spots will be rendered visible because less light reaches the eye from the areas covered by them than from adjoining parts of the paper; and, in like manner, if we conceive groups or areas of retinal bacilli which are less sensitive than the neighbouring ones, an impression of comparative darkness will be produced over these areas when the eye is directed to a uniformly illuminated surface. Intermittent photopsia I take to be a result of irregularities of circulation acting upon arterioles of diminished elasticity; and it is quite possible that the permanent spots might correspond with retinal areas which were under-nourished by reason of defective blood-supply. I did not see my way to suggest any treatment for the assumed condition, and could only advise circumspection in visual work. I had a conversation with Mr. du Maurier a few weeks before his lamented death and heard from him that the conditions of his sight were unchanged.

Harley-street, W.

[1] Von Mering and Minskowski and Freyhan, The Medical Week, 1893, p. 448.

A CONTRIBUTION TO THE STUDY OF JACKSONIAN EPILEPSY.

BY WILFRED J. HARRIS, M.B. CANTAB.,
HOUSE PHYSICIAN TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN-SQUARE, BLOOMSBURY.

EPILEPTIFORM fits are always interesting to study, but the following cases are of especial interest in that the first illustrates the fact that the abdominal muscles are unilaterally represented in each hemisphere for certain movements, while in the second case the unilateral spasms of the palate and tongue confirm in man the unilateral cortical representation of the soft palate and tongue movements shown by Beevor and Horsley to exist in the monkey. These experimenters have also shown[1] that the abdominal muscles of one side, especially the rectus abdominis, can be stimulated by excitation of the internal capsule of the opposite side in the monkey. A few cases have been observed of unilateral paralysis of the soft palate in hemiplegia, but I am unable to find any record of unilateral convulsions affecting the soft palate and tongue. I have to thank Dr. Buzzard and Dr. Gowers for their kind permission to make use of my notes on these cases.

CASE 1.—The patient was a girl aged five years, with symptoms of probably multiple tuberculous tumours in both Rolandic areas and in the cerebellum, and quite blind from post-neuritic atrophy. On Oct. 15th, 1895, she began to have convulsions early in the morning, and when seen half an hour later she was found lying partly on her left side, with her head and eyes turned to the left, having regular clonic spasms quite rhythmically about once a second of the left side of the face and of the arm, abdomen, and leg on the left side. The head was turned to the left by regular clonic spasms of the sternal portion of the right sterno-mastoid, and the eyes were turned to the left in conjugate deviation with fine lateral nystagmus, the quick movement being to the left. The pupils were equal and dilated as usual; the corneal reflex was present and consciousness was partly retained. The mouth was drawn to the left rhythmically with the other spasms, and the left eyebrow twitched up, the eyelids blinking irregularly in an apparently semi-voluntary manner. The left hand was clenched, the thumb being turned in, and the forearm partially flexed. There were powerful rhythmic contractions of the left great pectoral and of the left

[1] Philosophical Transactions of the Royal Society, 1889.

abdominal muscles, the right side being quite lax and free from spasm. Respiration was consequently much interfered with and irregular, but there was no cyanosis. The left foot and leg also took part in the rhythmic spasms, but to a less extent than the arm. The knee-jerks were much diminished, the right being quite absent and the left just present. There was no ankle clonus. After the convulsions had continued for an hour an enema of fifteen grains of bromide of potassium and fifteen grains of chloral hydrate was given. Five minutes later the spasms had quite ceased, and after another three minutes the knee-jerks had returned and were excessive, with double ankle clonus. Slight left hemiplegia followed the attack, but cleared up in less than two days, the child being as bright as usual. A week later the child had another attack similar to the last except that the convulsions were right-sided, but in all other respects they exactly resembled the previous fit seen. Briefly, there was conjugate deviation of the head and eyes to the right, with clonic contraction of the left sterno-mastoid and of the right great pectoral and right abdominal muscles. The contractions were shock-like, violent, and synchronous, with similar convulsion of the right side of the face, arm, and leg as in the previous attack, but right-sided. These continued for nearly two hours, and Dr. Hughlings Jackson, who

FIG. 1.

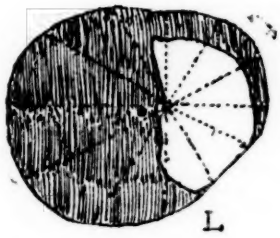
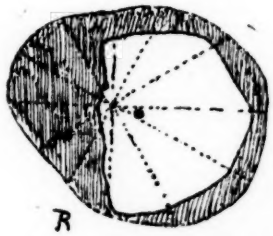


FIG. 2.



Charts of the visual fields, taken by McHardy's perimeter, showing left hemianopia. Blind field is shaded.

happened to be going round the ward at the time, confirmed the observation as to the unilateral spasm of the abdominal muscles. The child had had five attacks of convulsions while in hospital—three right-sided and two left-sided—but seemed none the worse. In each case they were followed by slight temporary hemiplegia without aphasia.

An additional point of interest was the well-marked clonic spasm of the sternal portion of the sterno-mastoid muscle on the side opposite to the other convulsed muscles, and explained by the general movement of the head and eyes to the same side as the convulsed limbs or away from the lesion, which would require the opposite sterno-mastoid to carry it out. This indicates a cortical discharge (middle level fit), since movements and not muscles are represented there. The sterno-mastoid, therefore, when used to turn the head to the opposite side is governed by the hemisphere of the same side. This case is in striking contrast to one lately under observation, that of a man with symptoms of left-sided sub-tentorial tumour in which there was right-sided weakness, especially of the leg, with paralysis of the left sixth and sensory portion of the left fifth nerves, with double optic neuritis. In his case there was a definite history of numerous convulsions of the right leg and slightly of the right arm, with turning of the head and eyes towards the left, without loss of consciousness. This is possibly an illustration of what Dr. Hughlings Jackson has termed "ponto-bulbar" fits, in which the discharge begins in the pons or bulb (parts of the lowest level) causing convulsion of the opposite limbs with turning of the head and eyes to the same side.

CASE 2.—This was that of a man aged thirty-three years suffering from slight left hemiplegia, chiefly of the hand,

FIG. 3.

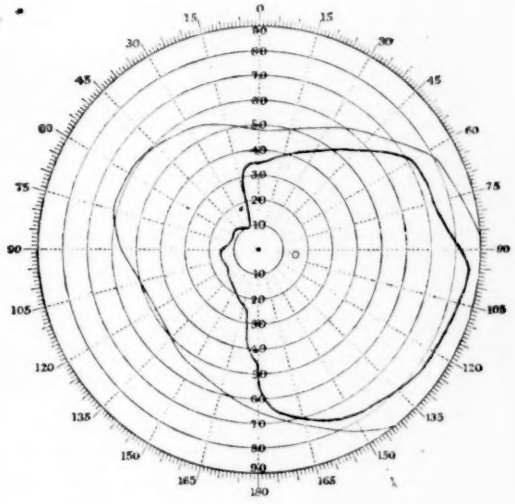
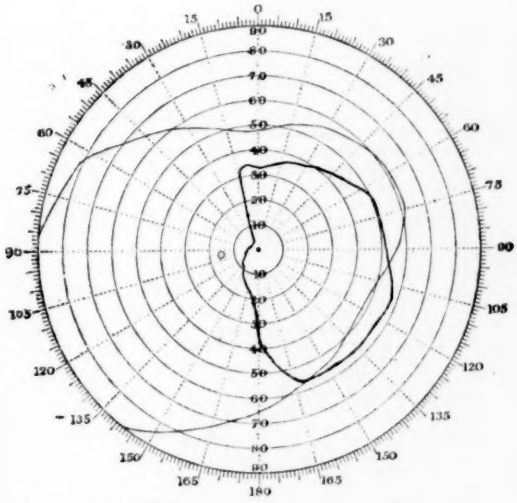


FIG. 4.



Left hemiplegia, complete for form and colour, but partial only to light. Visual fields taken by McHardy's perimeter in case of left hemiplegia and recurring left sided convulsions.

slight left hemianæsthesia, and left hemianopia. The knee-jerks were absent; there was some ataxy on standing with the feet together and the eyes shut; his speech was somewhat slow and hesitating, suggestive of early general paralysis; and he had occasional attacks in which he saw red and green lights whirling in front of him and followed by spasms of the left hand and face. These visual

attacks were generally accompanied by an olfactory sensation of a "nasty burning smell," which he said resembled the smell of burning bad meat or burning filth. This olfactory sensation sometimes preceded and sometimes followed the visual sensation, the two lasting about five minutes. When closely pressed he said he sometimes had a nasty bitter taste in his mouth at the same time, but he did not volunteer this. There was no loss of consciousness after these attacks, no automatism, dreamy state or reminiscence, or vertigo. These symptoms followed a fit which he had six months previously, when he became weak down the left side, with disturbance of vision. The hemiplegia gradually improved, but since that attack he had been subject to the visual and olfactory sensations above described and his vision had not improved. During the previous four years he had had three other fits followed by loss of consciousness, but no accurate description of them could be obtained; in one he had fallen off the box of a cab, and was taken unconscious to the Birmingham Hospital. There was a clear history of syphilis fourteen years previously. On examination his pupils were equal and reacted to light and accommodation. The discs and fundi were normal. The vision of the right eye equalled $\frac{6}{9}$ and that of the left eye $\frac{6}{6}$ J. 1. There was almost complete left hemianopia, but no hemianopic pupil. The sense of smell in each nostril tested with assafœtida and peppermint was perfect. The sense of taste tested on each side of the tongue separately was quite normal. The other cranial nerves were normal. Dr. Gowers' diagnosis was chronic meningitis of the convexity, damaging the cortex, especially in the angular region (higher visual centre) and motor regions, and probably also softening near the motor path from vascular disease. On Nov. 11th the patient was much upset on learning that he would soon be discharged, and the same evening at 5 P.M. he had a severe attack of seeing red and green lights, one of each colour, whirling round each other from left to right, for about five minutes, and followed by the usual olfactory sensation of a nasty burning smell. He was observed to turn pale and look ill, and he immediately began to have left-sided convulsions in the face and hand. These commenced by a clicking noise in the throat, followed by spasm of the left side of the face, and after a few seconds by spasms in the left hand. The spasm in the face commenced by a tonic contraction of both frontales, lifting the eyebrows, then deepening of the left naso-labial fold and shutting of the left eye. After this tonic spasm had lasted two seconds it was replaced by rhythmic clonic spasms of the left side of the face at the rate of three in two seconds, both frontales and corrugators working equally, the left orbicularis palpebrarum, the left zygomatici, attrahens and attollens auris and chin muscles. The left angle of the mouth was also occasionally strongly drawn out, with synchronous spasm of the platysma on that side. He was perfectly conscious the whole time the convulsions were going on, for about an hour and a half, and could stand and walk, answer questions, and do anything he was told. On opening his mouth the tongue was seen to be rhythmically protruded towards the right and withdrawn, the left side working chiefly. There was no narrowing of the tongue. The soft palate was also working on the left side only, being raised and drawn to the left rhythmically with the other clonic spasms, and synchronously with retraction of the tongue, which seemed to be the strongest tongue movement. The clicking noise heard in the throat seemed to be due to the palate movements. The larynx could not be observed, there was no external movement of it as a whole, but the patient could not sing *e* continuously, though he could answer questions. There was no movement whatever of the eyes or head. The spasms next affected the left hand, beginning with slow adduction and opposition of the thumb, then clonic contractions of the same with the thumb kept straight, followed by slight clonic contractions of the fingers, the thumb being inside. The index-finger was flexed only at the metacarpo-phalangeal joint, the others were more and more flexed progressively towards the little finger. The movements of the fingers were less powerful than those of the thumb. Next followed flexion of the wrist and spasm in the long thumb muscles. There were no contractions in the extensors of the wrist or any other muscles of the arm or leg. The spasms in the hand were synchronous with those in the face and were quite regular. The convulsions went on for nearly an hour and a half, the face or hand stopping for a minute or two occasionally while the other persisted, then re-commencing, the mode of onset of the spasm being always the same. During the convulsions there was no alteration in hemianopia and the knee-jerks were absent as before. He once previously while in hospital had a similar attack of twitching of the left hand and face following immediately the same visual and olfactory sensations, but lasting two or three minutes only. On Dec. 20th he was seized with general convulsions with loss of consciousness, and he died the same day.

Necropsy.—At the necropsy Dr. W. S. Colman's report showed some excess of sub-arachnoid fluid and the pia mater was somewhat thickened and adherent in places. The pia mater stripped readily off the frontal, temporo-sphenoidal, and occipital lobes, but over the lower part of the ascending parietal and ascending frontal regions on the right side the superficial layers were adherent and came away with the pia mater. The upper part of the convolutions was free from adhesions. There were also localised patches of cortical softening in the following situations: (1) in the right angular gyrus close to the extremity of the fissure of Sylvius; (2) on the median surface of the right occipital lobe, one small patch three-eighths of an inch across near the apex of the cuneus; (3) in both uncinate gyri, but most extensively on the right side; (4) in the depth of the parieto-occipital fissure; and (5) just in front of the internal parieto-occipital fissure in the precuneus. The internal capsule was normal.

The result was a remarkably close confirmation of Dr. Gowers' diagnosis. The softening in the right cuneus accounted for the left hemianopia and possibly also for the visual attacks, the softening in the uncinate gyri for the olfactory sensations, while the thickened and adherent membranes over the lower ascending frontal and parietal convolutions accounted for the localised convulsions in the left side of the palate, tongue, face, and hand. It is interesting to note that though the patient had left hemianopia and suffered from visual and olfactory attacks, yet his acuity of vision and sense of smell were normal. The hemianopia also was not quite complete; for example, he could often tell if a large object such as a hand were moving in the left field, and he could see light quite out at the periphery if thrown directly on the pupil, yet a small object as a disc of white paper was not seen until the middle line was approached. Such partial hemianopia is also seen when transient hemianopia due to acute cerebral seizures is clearing up. He never had any dreamy state or reminiscence such as has been shown by Dr. Hughlings Jackson to be often associated with an olfactory aura in epilepsy. This aura is always crude, and it is curious how in this case and most published cases of the kind the simile used by the patient in describing the aura has been that of a terrible burning smell, such as burning rags or burning filth. In this patient, however, the simile is of less significance because he had been accustomed to this smell in his work. The idea of something burning seems fairly constant and it is always disagreeable and almost indescribable. This sensation is then of a low order of elaboration, and the explanation of this is obvious if we assume, as there are many reasons for assuming, that the centre for smell in the uncinate gyrus is only the direct cortical centre for the olfactory fibres. The olfactory tracts are not true cranial nerves, but contain nerve cells and grey matter, and in their relationship to the olfactory rootlets may be compared with that of the external geniculate body and pulvinar to the optic tract. The uncinate gyrus is then the homologue of the occipital cortex or half vision centre, and just as elaborate visual phenomena are not originated there, but simple sensations such as red and green lights or the "fortification" spectra of migraine, so we may understand why only crude sensations of smell are produced by a lesion of the uncinate gyrus. The so-called motor cortex is an exact parallel. A discharging lesion such as a tumour in the face centre, or, as in this case, chronic meningitis, gives rise to crude movements only, such as were described in the progress of the fit above. Purposeful movements are never originated there, but are elaborated in the prefrontal or highest centres, and are seen after an attack of *petit mal*, producing the well-known effects of post-epileptic automatism. Similarly for any highly elaborated sensation of smell, such as the odour of a particular flower, we must never expect to observe it in a lesion of the uncinate gyrus or middle centre, but must look for it in the more elaborate and complex seizures of *petit mal*.

National Hospital, Queen-square.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF PUERPERAL ECLAMPSIA WITHOUT RENAL SYMPTOMS; BLOOD-LETTING; RECOVERY.

BY JOHN R. GIBSON, M.D., D.P.H. F.P.S. GLASG.

I THINK the following case worthy of record as in the first place illustrating the benefit of blood-letting and secondly in throwing light upon the pathology of eclampsia and favouring the view that the cause of the disease is a poison circulating in the blood irrespectively of the kidneys. In my case the renal symptoms (with the exception of very slight albuminuria, and there are very few pregnant women at the seventh month who do not have albumin in their urine) were entirely absent and the patient considered herself in good health until the sudden onset of the convulsions.

On Nov. 26th, 1895, I was hurriedly called to see a young married woman, aged nineteen years, who had suddenly been seized with a convulsive fit. I found the woman lying on the floor in a tonic convulsion, and a dead fœtus lying between her legs and under the clothes. The child was born during the convulsion, the patient's mother, in whose house she was, being unaware of the child's presence. I at once separated the fœtus and put the woman to bed, and as soon as I could procure it I administered chloroform by inhalation. During a spasm the placenta was shot out of the uterus with some force. The administration of the chloroform did not afford any relief, the tonic spasms remaining very severe and long, lasting nearly a minute, and being succeeded by clonic spasms of the usual type of not more than two minutes' duration. As death seemed imminent from suffocation I proceeded to augment the chloroform inhalation by the introduction of a warm solution of one drachm of chloral hydrate per rectum. I continued the chloroform inhalation for half an hour longer, pushing it till the breathing became stertorous, but with the exception of making the tonic intervals shorter very little effect was produced. At this stage I asked for, and obtained, liberty from the patient's friends to bleed her. I immediately did so in the usual way from the median basilic vein to the amount of twelve ounces. Shortly after this was done the tonic spasms grew shorter and less severe, so that about six hours after the blood-letting the convulsions had almost ceased and the patient was semi-conscious. Next morning the patient was quite conscious and made an uninterrupted recovery. She gave the following history. Up to the day she became unwell she had been fairly well during her pregnancy with the exception of morning sickness during the earlier months. She had no swelling of the face or legs so far as she had noticed, and the urine was also of the usual amount. On the day of her illness she had walked from her own house to her mother's (about a mile), and shortly after she arrived her mother noticed she had a fixed look, and later twitchings of the mouth; without warning she then fell to the floor in a convulsion and became unconscious, and this was the condition in which I found her. She did not suffer during her pregnancy from cephalalgia, abnormal vision, or epigastric pain. I examined the feet and body generally for œdema, but could find none. I also drew off, on the evening of her illness, some urine from the bladder by the catheter which had a specific gravity of 1020, was of a straw colour, and contained a trace only of albumin, it being barely perceptible with the cold nitric acid method. The microscope failed to detect any tube casts. The fœtus was fresh and death appeared to have been recent.

Paisley.

A UNIQUE CASE OF VACCINATION.

BY CHARLES FREDK. SUTTON, M.R.C.S. ENG.,
PUBLIC VACCINATOR OF THE HOLMES-CHAPEL DISTRICT OF THE CONGLETON UNION.

I SHALL be glad to know if any of the numerous readers of THE LANCET have heard of a case of vaccination similar to the one described as follows.

In March last I vaccinated a child with calf lymph, and on the eighth day it had taken exceedingly well without the least sign of inflammation. The vaccination ran its usual course and the scabs having come off left four perfectly healed marks, but to my astonishment a month afterwards the same places began to rise again and resembled in every respect a newly vaccinated arm. It ran the usual course again, becoming quite well. The same thing occurred again early in June and late in July. Much to my surprise I was called in to see the child on Oct. 5th last, and I then found the arm again taking precisely as it did in the first instance and running the usual course, and anyone not knowing the circumstances of the case could not have seen any difference between it and one freshly vaccinated. The child is perfectly healthy and has suffered no inconvenience beyond the slight irritation due to vaccination. I called the attention of the vaccination inspector to the case in September last and he informed me he had never either seen or heard of such a case.

Holmes Chapel, Cheshire.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Prœmium.

MIDDLESEX HOSPITAL.

A CASE OF TUMOUR OF THE PHARYNX; REMOVAL AFTER LARYNGOTOMY; RECOVERY.

(Under the care of Mr. PEARCE GOULD.)

LARGE tumours of a simple nature do not often require removal from the base of the skull at the age of this patient, naso-pharyngeal fibromata, which are the most common form requiring extensive operation, being met with from ten to twenty years of age. The method employed by Mr. Pearce Gould—removal after splitting the soft palate—was apparently first employed by Manne of Avignon in 1711, the preliminary laryngotomy with plugging of the pharynx by a sponge being an important addition of more modern character. To this addition, with greater care in the after treatment, must be ascribed the success which attends the performance of severe operations in this region at the present day. For the notes of this case we are indebted to Mr. W. Irving.

A man aged twenty-nine years was admitted into the Pepys Ward on May 13th, 1896, for a "swelling in the mouth." He gave the following history. Two years ago he noticed some difficulty in breathing through his nose, followed by difficulty in swallowing. A few weeks later he noticed that he had a swelling in the roof of his mouth; it was hard, but not painful, and not tender on pressure. About July, 1895, he began to have pain on swallowing and was an in-patient in a hospital for a short time. It was decided, however, that nothing could be done for him and he was discharged. The pain on swallowing had increased considerably during the last few months previous to admission, the pain being referred to the neck and the top of the head. From time to time he had had blood-stained discharge from the nose, and on one occasion he had severe epistaxis. He had also become deaf. For the last year he had had great difficulty with his food, and could now only eat meat if it were minced. He had lost 2 st. 6 lb. in weight during that period. On admission to hospital the patient was found to be a fairly healthy-looking man; he breathed with his mouth open, was rather deaf, and was not able to blow down either nostril. On looking into the mouth and depressing the tongue the soft palate was seen to bulge forwards and downwards, being slightly red near the attachment of the uvula; otherwise it was healthy. When the soft palate was hooked up and the uvula deflected to one side a swelling about the size of a large Tangerine orange could be seen filling the naso-pharynx. The soft palate was freely movable over it. On examining with the

finger the tumour was found to be fixed to the spine; it was quite smooth and globular in outline. There was no deformity of the nose or displacement of the hard palate or of the anterior or upper wall of the antrum. There were no enlarged glands in the neck. On May 27th the patient was placed under chloroform. Laryngotomy was first performed and a sponge placed in the pharynx. The soft palate was then divided in the middle line. The tumour was found to fill the naso-pharynx, to be attached behind to the vertebræ, and to extend up into the sphenoidal sinuses. The wall of the pharynx was incised below the tumour and the incision was carried up on each side; with the raspatory and the finger the tumour was then separated from the spine and the skull. The hæmorrhage was slight except at one moment when there was a free flow of venous blood which was easily stopped by pressure. After removal of the tumour the sphenoidal sinuses, basilar process, and anterior arch of the atlas were found to be bare and uneven. The soft palate was united by silkworm gut sutures. A sponge was left in the pharynx over the larynx and the laryngotomy tube was left in. The patient left the operating theatre with a good full pulse. About two hours after the operation there was a rather severe hæmorrhage after a fit of coughing, and the patient vomited about a pint of blood, during which the sponge was ejected from the pharynx. Mr. Irving stopped the bleeding with some difficulty by pressure behind the palate and by the application of tinctura ferri perchloridi. During this the patient became very collapsed, but rallied again. He had nothing by the mouth, but was fed per rectum, his thirst being relieved by an enema of warm water. The nose and mouth were sprayed every hour night and day—the nose with mercury lotion, and the mouth with boric acid solution. The pulse was 120 and the temperature 96·2°F. On the 30th there had been no more hæmorrhage, but there was slight fœtor from the mouth. The patient was allowed a little milk by the mouth, which he took without pain. Since the operation he could hear very much better and could breathe well through the nose. He was not allowed to talk. The temperature was 99°, the pulse 92, and the respirations 14. On June 1st the patient had no headache or earache, the soft palate had united, and the tongue was clean and moist. He took liquids without any pain and there was no fœtor. On the 3rd the stitches were removed from the palate, and on the next day he was allowed fish diet. The last note, on June 14th, was: "The patient has made good progress, takes ordinary diet well, has no discharge and no pain, even when naso-pharynx is irrigated. There is nothing to be felt behind the soft palate. Goes home to-morrow."

The following report on the tumour has been furnished by Mr. J. Murray, who was surgical registrar at the time:—"On microscopic examination the tumour is found to consist of a groundwork of loose connective tissue containing spindle cells and small round cells, in places undergoing mucoid degeneration. In the section are seen a few ducts cut across; these are lined with columnar epithelium and contain in their interior round cells held together by mucus. Around these ducts there is marked small-cell infiltration."

CHILDREN'S HOSPITAL, BRIGHTON.

A CASE OF DILATED URACHUS ACCIDENTALLY OPENED WHILST PERFORMING ABDOMINAL SECTION FOR PERITONITIS; RECOVERY.

(Under the care of MR. GEORGE MORGAN.)

CASES of abnormal urachus are rare, but the condition has been described as an occasional complication of median abdominal section. They are not of necessity always centrally placed and their resemblance to ovarian cysts has led to a mistake in diagnosis of some moment. It is stated that hæmorrhages may take place into the cyst in consequence of injury, and symptoms resembling those produced by a twisted ovarian pedicle develop. When there is no history of a discharge from the umbilicus at any time the abnormality is recognised with even more difficulty. In one case recorded by Dr. Frëer, that of a young man aged twenty-four, a cyst was repeatedly tapped, as much as three pints of reddish fluid having been removed on one occasion. At the necropsy a large sac was shown which was evidently a dilated urachus.

A boy aged five years was brought to the hospital on Feb. 18th, 1896, with a two days' history of vomiting and diarrhœa. The boy was then suffering severe abdominal pain, there was no marked tenderness, his temperature was 102° F., and his tongue was furred; he had no rash or sore-throat. The next day he was much worse; he lay on his left side with his thighs fully flexed. The abdominal wall moved slightly with respiration. The distension, tenderness, and pain were more severe; there was no localised swelling. Sickness and diarrhœa were almost constant, his temperature was 103 6°, and the pulse 108. He was given small quantities of beef-juice and peptonised milk, and one-twelfth of a grain of morphia hypodermically every four hours. Enemas were not retained. Operation was suggested, but permission could not be obtained. For the next five days there was some improvement in his general condition, pain, and temperature. The abdomen was still distended, but the sickness and diarrhœa were relieved. On the 24th (the seventh day of his residence in the hospital and the ninth day of his illness) the note was: "Temperature 101°; the pain, tenderness, and distension are still present; the sickness and diarrhœa are better. In the region of the bladder and extending nearly to the umbilicus is a feeling of resistance that is pretty sharply defined; micturition is frequent, but there is no dribbling." Suspecting the swelling to be bladder, a catheter was passed, but only about half an ounce of urine was drawn off; this did not affect the size or position of the hypogastric fulness. On the 27th (three days after the above note) the boy's general condition was better, except that he was passing a large quantity of mucus by the bowel (not blood-stained); the distension and hypogastric fulness were less marked. On the evening of the next day—i.e., twelve days from the first symptom—the boy was much worse, the sickness had returned and the distension was very severe. His temperature was 103°, and his condition looking so critical it was decided to operate at once. At 9 30 P.M. Dr. Chaffey administered the anæsthetic, and Mr. Morgan, assisted by Dr. Beattie, the house surgeon, opened the abdomen in the middle line, the incision extending from the umbilicus to a point near the pubes. The deeper layers were divided carefully with the director. Whilst opening what was taken for the sub-peritoneal fat and peritoneum a gush of about one ounce of clear urine escaped. The wound was at once clamped and a catheter was passed. The bladder was found to be quite empty and lying in the pelvis, but the catheter could be passed up to the wound in the cyst, where the clamp was. After carefully dissecting around the cyst the abdominal cavity was opened. There were signs of recent peritonitis, with flakes of lymph, but there was no pus. The abdominal cavity was flushed with hot water, and the intestines were carefully sponged. The boy was too ill to make a prolonged examination or to dissect out the cyst, but it was certain that the cyst was in the middle line, running up to the umbilicus and communicating with the bladder. After washing out the bladder and cyst with boric solution the wound in the latter was closed with a double row of silk sutures, the stitches not penetrating to the mucous membrane. The abdominal wall was also carefully closed. The next day the boy was much better, the sickness had ceased, and the distension was relieved. For the first three days after the operation the wound in the abdominal wall appeared to be healing by first intention, but on the fourth day pus began to well up from the suture wounds. Three stitches were taken out and the pus washed away. For ten days after this some pus and urine escaped by the abdominal wound, but this became less each day and the boy's general condition improved daily. Twenty-six days after the operation the wound was quite closed and the boy was quite well.

Remarks by MR. MORGAN.—So little reference is made to dilated urachus in our surgical text-books that I presume the condition is a rare one, or rarely discovered except post mortem. I could not see that the dilated urachus had played any important part in the boy's illness. The peritonitis was evidently secondary to a severe enteritis the cause of which could not be discovered. It is possible that as the distension of the intestines became more marked it prevented the urine in the cyst from escaping into the bladder, for it is certain that when the bladder was emptied by the catheter the hypogastric swelling was unaltered. I should say that the calibre of the urachus before it was opened and the urine drained away was as nearly as possible that of a piece of ileum of a child aged five years.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

The Fiftieth Anniversary.

A MEETING to celebrate the fiftieth anniversary of the foundation of the Pathological Society of London was held on Oct. 20th at 20, Hanover-square, the President, Mr. H. T. BUTLIN, being in the chair.

Mr. BUTLIN, before commencing his address, said that he regretted to say that of the original members of the society only five were now alive—viz., Sir Richard Quain, Sir William Jenner, Sir John Simon, Mr. Holthouse, and Mr. Wagstaffe; and only one of these original members was able to be present that night—namely, Sir Richard Quain. He said he had received congratulatory telegrams from various societies, among others from Professor von Bergmann in the name of the Royal Chirurgical Society of Germany. A congratulatory parchment had also been received from the Reading Pathological Society, the first society of that nature which was formed in England. Mr. Butlin then delivered his address on the History of the Pathological Society, a full report of which will be found in another part of our issue.

Sir RICHARD QUAIN, in rising to propose a vote of thanks, said he could recall the meetings fifty years ago and regretted that he was the only original member who was able to be present that night. At the first meeting of the society a memorandum was addressed to the profession putting forward the claims for the formation of a pathological society in London, which should not be behind Dublin and other towns which already possessed such a society. He referred to the original founder of the society, Thomas Bentley, who, however, remained comparatively unknown. He commented on the great advance that had been made in pathology since the time when pus was described as "a clear fluid containing globules." The work of the society had been well done, as was evidenced by the value as books of reference of the Transactions of the Pathological Society.

Dr. WILKS, in seconding the vote of thanks, said he could remember how the proposal to form a society for the study of pathology originated at a meeting held at the house of Dr. Thomas Bentley, who at that time lived in Trinity-square, Dr. Barlow being in the chair. He compared the present position of pathology and morbid anatomy and regretted the tendency to neglect the latter for the former, and more especially the separation of clinical medicine from pathology. He pointed out how slow the profession had been to accept views which to-day were well recognised. He alluded to the great value of the work of the Pathological Society and the excellent papers which were to be found in the Transactions of the society.

The meeting then terminated.

During the evening in the library of the Royal Medical and Chirurgical Society were exhibited a Collection of Pathological Specimens illustrating the chief advances made in Morbid Anatomy and Pathology during the past fifty years. A large number of these had at times been brought before the society, and so far as possible the specimens which were available had been re-exhibited. Portraits of the past presidents of the society were exhibited in an adjoining room together with other objects of interest.

OPHTHALMOLOGICAL SOCIETY.

Hereditary Optic Atrophy and Allied Cases.—Herpes Ophthalmicus occurring a few days after Cataract Extraction.—Central Amblyopia as an Early Symptom in Tumour at the Chiasma.—Note on a Case of Cataract Extraction in an Albino.—Oxygen Gas in Superficial Suppurative Affections of the Cornea.

THE first ordinary meeting of this society for the present session was held on Oct. 15th, Mr. E. NETTLESHIP, President, being in the chair.

Mr. SIMEON SNELL (Sheffield) contributed sixteen cases of Hereditary or Congenital Optic Atrophy and Allied Conditions, in which both eyes were affected. They ranged themselves into three groups:—1. This group consisted of a family in which five out of three children (three sons and two daughters) were amblyopic. The patients when first seen were all adults, their ages ranging from thirty-two to twenty-one. The condition in all was apparently congenital and had undergone no alteration. The field of vision showed no peripheral contraction. Colour-blindness was present in four out of the five cases, but a brother with otherwise normal sight was also colour-blind. 2. This group comprised eight cases—viz., two brothers who became affected when aged about seventeen years; two brothers who became affected when aged about twenty and twenty-four years; a young man affected at the age of twenty-five years, cousin to the last-named brothers; and in another family two brothers and one sister, the amblyopia in each case coming on when aged thirteen to sixteen years. These cases belonged more strictly to the class described by Leber as hereditary optic atrophy. Headache was a symptom, and epileptic attacks were present in two instances. A central scotoma was present in some of the cases, and in some also there was contraction of the periphery of the field. The inciting cause was not evident. In one case vision failed shortly after marriage. 3. In this group were three brothers, all smokers. A similar series had been related by Mr. Edgar Browne. The affection showed itself at different ages—viz., fifty-two, forty-nine, and thirty-five. The cases were observed from eight to ten years ago and the condition had remained permanent, the best now having $V = \frac{6}{36}$ in each eye. In each case there is peripheral contraction of the field and a central scotoma.

Mr. SNELL also related the particulars of an attack of Herpes Ophthalmicus occurring in a woman aged seventy-five seven days after extraction of cataract without iridectomy on the same side. In addition to the forehead, the side of the nose and the upper eyelid were affected, but a slightly delayed recovery from the operation was the only effect on the eye.—The PRESIDENT said that the distinctions between the different kinds of family blindness were very useful, and should be made the most of. All the cases were not hereditary optic atrophy as described by Leber; he had met with dyschromatopsia and amblyopia in several members of a family whose sight remained stationary; they could all see better in dim light.—Dr. HABERSHON said that there were differences between some of the cases. Those which occurred in smokers in a family showed that the members of that family were not able to resist the action of tobacco. He thought that the cases in Mr. Snell's first group were more of the nature of retinitis pigmentosa with night blindness.

Dr. ARTHUR SANDFORD (Cork) reported the case of an Albino suffering from Double Lenticular Cataract. Previously to operating he was anxious to find some reference indicating the possible influence of the congenital condition upon the success of the operation, but could find no similar case recorded. He extracted the left cataract with a narrow iridectomy, and the operation was satisfactory, as well as the subsequent progress of the case, except that for about ten days there was considerable hæmorrhage into the anterior chamber from the cut surface of the iris. This seemed to be connected with the morbid condition. Ergot and iron were administered. The patient recovered excellent vision with glasses ($V. = \frac{6}{9}$ reads 4 J.). In future he would omit iridectomy in similar cases.—Mr. SNELL, commenting on the occurrence, said he had operated in a similar way on both eyes of an albino without meeting with any such complication.—The PRESIDENT mentioned an instance in which he had performed an extraction on one eye of a myopic albino, which had been followed by some iritis, but no hæmorrhage.—Brigade-Surgeon-Lieutenant-Colonel DRAKE-BROCKMAN cited the case of a native Hindoo albino, on whom he had operated for cataract without complication.

Dr. SANDFORD also gave a short account of the treatment of Spreading Superficial Ulcer of the Cornea by means of Oxygen Gas with a demonstration of the apparatus. In one case the pain was relieved and the spreading checked in twenty-four hours, excellent vision being ultimately retained. A case of severe conjunctivitis treated in the same way had made an unusually rapid recovery. The apparatus shown consisted of a gas bag communicating by a tube with a rubber cap or mask, according as it was adapted to one or both eyes, enabling the cornea to be exposed in the dark to a current of pure oxygen.—Mr. TREACHER COLLINS reported a rapid recovery in a case of spreading phlyctenular ulcer,

which had been treated for him in a similar way by Mr. George Stoker.

The PRESIDENT read a paper on Central Amblyopia as an Early Symptom in Tumour at the Chiasma. He had seen about ten cases in which failure of vision at or near the centre of the field in both eyes with little or no early ophthalmoscopic change occurred in women. Three of them turned out to be cases of ordinary tobacco amblyopia, and in one it seemed probable that alcohol was the cause. Some five cases remained in which there was no reason to suspect a toxic cause, and in which later events made it probable that coarse intra-cranial disease had caused the visual failure. Three of these patients had died with cerebral symptoms, and in the fourth a post-mortem examination revealed a cystic tumour involving the chiasma, optic tracts, and other parts at the base of the brain. The loss of central field in the earlier stages was more abruptly defined and less constant in position than in tobacco amblyopia, and the symmetry was less precise both in time and degree than in the latter disease. In a later stage there was mental failure, loss of memory, and irritability, with occasional headache and varying paralysis of one or more ocular muscles. The changes at the disc at most only amounted to pallor of the outer half until a late stage of the disease. If these cases were seen at an advanced stage the visual field would often have the form of a temporal hemianopia more or less. The case in which he had obtained a post-mortem examination was that of a lady whose sight had failed whilst she was suckling her fourth baby. She had a black spot before the left eye and, later, one before the right. There was a central scotoma of oval shape beginning just outside the fixation point and extending about 20° outwards. There was no peripheral loss of fields. Her vision and mental condition got worse, and she died after about three years. At the post-mortem examination the brain was a good deal flattened on both sides. At the base there was a large membranous sac filled with fluid lying on the sella turcica, and extending forwards to the cribriform plate of the ethmoid. The wall of the cyst was loosely attached to the hinder part of the frontal lobe, to the median part of the temporo-sphenoidal lobe, and to the hook of the uncinate convolution; it reached back as far as the middle of the pons. The chiasma was incorporated in the front wall of the cyst; the right optic tract could be traced back to the pulvinar; the commissural fibres could be followed a short distance towards the other side, as also the fibres which pass to the cerebrum. The left optic tract could not be found; it was so flattened as to be unrecognisable.

The following card specimens were shown:—

Mr. TREACHER COLLINS: Disseminated White Patches in the Choroid, with Cholesterin Crystals on the Surface.

Mr. MARCUS GUNN: Result of Iridectomy for Glaucoma.

BRITISH GYNÆCOLOGICAL SOCIETY.

Malignant Disease of the Body of the Uterus.

A MEETING of this society was held on Oct. 8th, Dr. CLEMENT GODSON, President, being in the chair.

The PRESIDENT read the notes of a case of Malignant Disease of the Body of the Uterus, and Dr. W. A. SMITH, who operated, showed the specimen, removed by vaginal hysterectomy, and described the operation.—Dr. MACNAUGHTON JONES observed that it had been recently shown that sarcoma of the uterus often followed on suppurative endometritis. It was therefore important that these minor cases should be treated early and in a radical manner.—Dr. WILLIAM TRAVERS cited a case where microscopic examination had shown that a suspicious condition of the uterus was really benign. He believed that the use of this means of diagnosis would save patients' lives, through the early discovery of malignant disease; whilst other patients with doubtful symptoms might be spared grave operations in non-malignant cases.—Mr. J. H. TARGETT, who examined the specimen removed by curetting from Dr. Smith's case, observed that this was one of the doubtful cases as far as the actual proof of malignant growth was concerned. But by practice it was possible to pronounce a specimen to be indicative of malignant change even when appearances were not conclusive.

Mr. F. BOWREMAN JESSETT read a paper on the Early Diagnosis of Malignant Disease of the Body of the Uterus, illustrated by notes of seventy-five cases and by specimens. He discussed the reasons of the difficulty of early diagnosis, and considered the degree of importance to be attached to various symptoms and signs, and dwelt especially on the value of microscopical examination of scrapings of the diseased tissues. As regards treatment, he felt sure that the only method open was total extirpation of the uterus. He summed up his conclusions as follows:—1. In all cases of women suffering from leucorrhœal discharge a vaginal examination should be insisted upon. 2. If, on examination, discharge is seen escaping from the os in a woman at or past the menopause, which discharge is occasionally slightly coloured or offensive, the canal should be dilated and the cavity of the uterus should be curetted for microscopic examination. 3. If the report is unfavourable, total extirpation of the organ should at once be urged. 4. Even in advanced cases, so long as the uterus is movable, much relief can be afforded and life prolonged by vaginal hysterectomy.

The PRESIDENT, in thanking Mr. Jessett on behalf of the society for his valuable paper, remarked that only a few years ago Dr. William Duncan read a paper on this subject at a sister society, and the almost unanimous verdict, in view of the large immediate mortality, was that vaginal hysterectomy for cancer was an unjustifiable operation. Now it was a recognised procedure, and even in the cases where the disease seemed to be most advanced there was often no recurrence.

Dr. PURCELL presented a table of 63 cases on which he had operated, dating from 1884. The mortality was 12, or 19 per cent. The after results were as follows: 1 alive after twelve years, 3 after six years, 3 after three years, and 12 after two years; 11 now alive had been operated on less than two years ago. Thus of 51 cases that recovered from the operation 30 were still alive, whilst 21 had died from recurrence, giving a percentage of 58·8 cases alive and free from recurrence. He congratulated Mr. Jessett on his excellent results and thought his own higher mortality was partly due to the fact that he began to operate when the technique was less defined than at present, and partly to the fact that he had in no way picked his cases, but had operated in some instances even against his own judgment in order to give a chance of relief.

Dr. R. T. SMITH thought the results in the matter of recurrence were very encouraging, and that Mr. Jessett had fully proved his contention that early and complete extirpation was the only rational treatment.

Dr. MACNAUGHTON JONES expressed his thanks to Mr. Jessett for the paper. The difficulty of early diagnosis often placed them on the horns of a dilemma, for sometimes while they had under observation a patient with doubtful symptoms she might pass into other hands, malignant disease was perhaps at once diagnosed and operation performed, and reflections were cast on previous treatment. The old cellular theory of cancer was now disproved, and they knew that cancer might arise in connective tissue. They knew also that erosions and follicular conditions of the cervix might be the precursors of cancer, that sarcoma might owe its origin to a previous suppurative endometritis, and that one kind of sarcoma (deciduoma malignum) might follow gestation. It was, therefore, most important to remember that conditions predisposing to cancer ought to be thoroughly treated and not left half cured. The early symptoms were often ambiguous; there might be no pain. Hæmorrhage might be present in other cases, though it was perhaps the most decisive symptom. The microscope, though often useful, sometimes failed. Thus twelve years ago he curetted a fungous growth of the uterus, and the late Mr. Marcus Beck, who examined it, pronounced it to be malignant, yet the patient was at the present time alive and well. In forming a diagnosis a former history of erosion, follicular conditions, or suppurative endometritis ought to be taken into account.

Mr. FREDERICK EDGE (Wolverhampton) thought Mr. Jessett's results were most encouraging to younger surgeons. He had performed vaginal hysterectomy in ten cases, but not once for cancer, as he had not met with a case where he felt he could remove the whole disease; but it was worth remembering that even if the disease seemed rather advanced permanent good results might still be obtained.

Mr. HEDLEY BARTLETT (Saffron Walden) referred to the case previously mentioned by the President and Dr. Smith. He assisted at the operation and realised that the operation was by no means an easy one.

Mr. BOWREMAN JESSETT briefly replied.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

President's Address.

THE opening meeting of this society was held on Oct. 8th, the President, Mr. RECKLESS, being in the chair.

The PRESIDENT'S inaugural address was on Commonplace Cases. Dyspepsia, perhaps the commonest ailment of the human race, was first dealt with. Closely allied to dyspepsia is that very common disease glycosuria. Failing physical and mental power is mostly complained of, but there is no thirst or increased appetite or excess of urine. The question of a suitable diet in these diseases naturally occurs. Some cases of glycosuria are benefited to some extent by excluding starch and sugar; but the question is whether, on the whole, it is well to absolutely forbid these articles of food, for the suffering so inflicted is often more severe than that caused by the disease. Mr. Reckless knew of cases of dyspepsia with flatulent distension that had been completely cured by the "Salisbury treatment." This consists essentially in withholding all stimulants, all possible fermentable foods, and causing the patient to live for weeks (possibly months) upon mince-meat properly cooked and hot water. From two to eight or ten ounces of minced beef are allowed according to the case three times in twenty-four hours, and a pint of hot water at from 100° to 120° F. is slowly sipped an hour and a half before every meal. The question of final cardiac failure in chronic cases was next referred to. In mitral stenosis and regurgitation with a short diastolic period digitalis might be expected to do good if the nutrition of the muscular wall was not too much impaired. In aortic regurgitation with diseased coronary vessels the indication would be to try to decrease peripheral resistance. A case in which urgent dyspnœa was promptly relieved by venesection was cited to show the benefit which sometimes follows bleeding. The same patient was on a subsequent occasion bled for the same symptoms without relief. It is a very difficult question in some cases in the early stage of venereal sore to decide as to whether or not the patient is suffering from syphilis. Mr. Reckless thinks it best to treat the sore locally and to wait, watching very carefully for constitutional symptoms. Individual susceptibility to mercury varies within very wide limits. As an example of what he administered with impunity the case was given of a young man who used during the course of treatment 24 grains of hydrargyrum cum creta, 95 ounces of liquor hydrargyri bichloridi, 23 ounces of 10 per cent. oleate of mercury, 350 $\frac{1}{6}$th-grain pills of biniodide of mercury, and a large quantity of iodide of potassium. It is astonishing with what impunity an absolutely clean hypodermic syringe may be used. Its value as a diagnostic agent in obscure cases with, it may be, anomalous physical signs will be generally admitted. Mr. Reckless stated that he had operated for empyema nineteen times and drawn off simple pleural effusions sixty times, and on every occasion he had used the hypodermic needle as a means of final diagnosis. He has never seen a serous effusion converted into a purulent one, and he has never had any cause to regret a preliminary puncture. In illustration of unusual complications of pneumonia Mr. Reckless referred to three cases he had under his care this year—one with double phlegmasia dolens, another with thrombosis of the ophthalmic vein which rapidly destroyed the globe, whilst a third (in an alcoholic subject) presented from beginning to end the symptoms of delirium tremens. The difficulties encountered in dealing with tight strictures of the urethra, with urgent indications for prompt action single-handed in cases of instrumental labour with retained placenta, with cases of poisoning, and with intestinal obstruction were briefly alluded to. The address concluded with remarks on modern drugs and sero-therapy.

PATHOLOGICAL SOCIETY OF MANCHESTER.

Sero-diagnostic Test for Typhoid Fever.—Exhibition of Specimens.

A MEETING of this society was held on Oct. 14th. The following office-bearers, members of committee, and auditors were elected for the year commencing October, 1896:—President: T. Harris, M.D. Vice-Presidents: W. Thorburn, F.R.C.S., and H. A. G. Brooke, M.B. Treasurer: T. A. Helme, M.D. Secretary: T. N. Kelynack, M.D. Committee: A. Brown, M.D., F. H. W. Cottam, M.R.C.S., E. T. Milner, M.B., E. S. Reynolds, M.D., J. W. Smith, F.R.C.S., W. P. Stocks, F.R.C.S., R. B. Wild, M.D., and J. B. Wolstenholme, F.R.C.V.S. Auditors: A. T. Wilkinson, M.D., and J. G. Clegg, F.R.C.S.

Professor SHERIDAN DELÉPINE gave a demonstration and preliminary communication on Sero-diagnosis of Typhoid Fever according to Widal's Method. Under microscopes were shown (1) a drop culture of typhoid bacillus to which a small quantity of serum obtained from the blood of a typhoid fever patient had been added; and (2) another drop from the same culture to which a similar quantity of serum from a patient not affected with typhoid fever had been added. In the first case the bacilli were motionless and had agglomerated together forming characteristic clumps. In the second case the bacilli were moving about in the usual way and were disseminated all over the field. The sharpness of the agglomeration, agglutination, or glabrification reactions was pointed out, and Professor Delépine expressed the hope that this method of diagnosis would become very useful perhaps more in connexion with public health than in ordinary practice, but probably in both. He had been able to repeat Widal's observations in a number of cases, and with Dr. Niven and Dr. E. Sidebotham was continuing the investigation. Professor Delépine also said that although Widal's discovery was quite recent the way had been paved to it by the work of Charrin and Roger (1889), Metchnikoff (1891–96), R. Pfeiffer (1894–96), Bordet (1895–96), Gruber (1895–96), and Gruber and Durham (1895–96).

The following Card Specimens were exhibited:—

Dr. FENN: Hypertrophied Tonsils.

Dr. HILL GRIFFITH: Mounted specimens illustrating Eye Affections.

Dr. ARTHUR HELME: (1) Vaginal Cyst; and (2) Uterine Fibroids.

Dr. LESLIE JONES: Lymphadenoma of the Cervical Glands.

Reviews and Notices of Books.

La Faune des Cadavres. By P. MÉGNIN, Membre de l'Académie de Médecine. Edited by G. MASSON, 120, Boulevard St. Germain. Printed by Gauthiers-Villars et Fils, 55, Quai des Grands Augustins, Paris. 1894. Price 3 francs.

THIS book is an interesting and valuable addition to medico-legal literature. It deals with the destruction, in temperate countries with a more or less moisture-laden atmosphere, of dead bodies by the agency of the larvæ of various orders of the Insecta and Arachnida. The chief medico-legal interest of the book lies in the first part, which is devoted to the action of the larvæ of these insects, &c., in the case of bodies exposed in the open air, and the author, by his entomological knowledge, has in many cases been able to accurately determine the date of death and exposure. As might have been expected, the family Muscidæ of the order Diptera play a conspicuous part in this connexion, and also various families of the Coleoptera, Lepidoptera (Insecta), and of the Acarina (Arachnida). The introduction to the book is occupied with an account of the processes of fermentative decomposition of dead bodies, the author quoting largely from Dr. Bordas' "Etude sur la Putréfaction." M. Mégnin observes that each stage of decomposition attracts its own series of insects, who find therein suitable conditions for depositing their ova, the resulting larvæ feeding on the products of each particular fermentation. The order of these insects, &c., never varies, and in a typical case, where the processes can begin from the beginning (as in summer), the author recognises eight different detachments of larval-workers. Full allowances were made in some of the author's medico-legal inquiries for the intervention of the winter months, when the activity of insect life is arrested. A very interesting case which may be related as a type of

M. Mégnin's valuable work is detailed (pp. 142-5). On Jan. 26th, 1883, the body of a new-born infant was found behind a panel in a house in the Faubourg du Temple. M. Mégnin and Dr. Descourt were deputed by the *juge d'instruction* to ascertain if possible the date at which the child had been exposed. The body of the infant had the skin and underlying organs almost intact, although completely mummified, but still smelling strongly. The integuments bore the impression of the linen cloths in which the body had been enveloped. These were stained with spots of a gelatinous liquid which had exuded from the body. In their folds were found several pupal envelopes of sarcophagous flies and a very large number of similar envelopes of a very small dipterous insect, the Phora aterrima, a fly whose extreme length never exceeds three millimetres. The dead bodies of several full-grown insects of the same species were also found. On the left side of the neck, which was uncovered, was a large gaping opening communicating with the interior of the body, evidently the result of destruction by larvæ. In the neighbourhood of this opening were found the pupal sheath of a large sarcophagous fly, probably Calliphora (Musca) vomitoria, and myriads of the envelopes of the pupal stage of Phora aterrima. Similar envelopes were also found among the child's hair which, as often happens in the new-born, was abundant. On the surface of the body several very rare species of Acarina, the Tyroglyphus longior and Glyciphagus spinipes, were found. These were crawling about the integuments, but had not had time to establish true colonies, for no trace of their dead bodies was found, nor was there any evidence of their fæcal dejections, which take the form of a yellowish powder. A living specimen of a small beetle of the family Histeridæ, Saprinus rotondatus, was also discovered in the hair. No other species after very careful research could be distinguished. The deductions drawn from these facts were as follows. "The extreme rarity of sarcophagous diptera, evidenced by the scantiness of their remains, shows that the epoch of death dates back to a time of year when these insects are scarce—i.e., the beginning or end of winter. The abundance of the Phoræ, who do not come near decomposing matters unless when half-mummified, shows that when the fine weather (the season when they are most abundant) came, the mummification of the body was well advanced and continued during the rest of the season under the influence of these diptera. Lastly, the rarity of the Acarina, the absence of any of the Dermestes and Anthrenia, who (especially the latter) work in the second year, shows that this body has not been dead more than a year. In conclusion, it is estimated that the child's death dates back to about a year, and that it took place before the spring of 1882." (The body was found in January, 1883.) The mother of this child was subsequently arrested, and confessed that she had been delivered on Feb. 3rd, 1882.

The second chapter of this work deals with the fauna of dead bodies which have been buried with or without coffins. This is also a very interesting chapter and effectually abolishes the popular idea that we are the victims after death of worms spontaneously generated. Larvæ here again play a conspicuous part, though fewer species obtain. The interesting question suggests itself, How came these various larvæ to be found in bodies buried in coffins six feet beneath the sod? M. Mégnin tells us he did not find the remains of Calliphora or other flies except in bodies which had been buried in summer. This proves that in these cases the sarcophagous flies (e.g., Musca domestica, Musca vomitoria, &c.) deposit their ova in the natural openings, the nose, mouth, &c., at or soon after death, before burial, the larvæ developing subsequently. It is a matter of common observation how numerous flies are in sick-rooms and in the wards of hospitals during warm weather. Bodies buried in winter, however, showed pupal stages of Anthomyia and Phora in abundance, also numerous very active larvæ of Rhizophaga. These larvæ come from eggs deposited on the surface of the ground by insects attracted by particular cadaveric odours perceptible to their delicate sense of smell. These larvæ, once developed, traverse the underlying soil, making use, it may be, of the burrowed channels of earthworms *en route*, and, guided by the afore-mentioned odours, eventually reach the scene of their labours. The humidity of the soil and the pressure of the superimposed earth soon cause warping and breaking up of the coffin planks, large holes resulting to form paths of ingress to larval life. It is a well-known fact that insect larvæ burrow down from the surface to truffles decomposing underground. In the same way the perfect insect manages after complete metamorphosis to reach the surface.

These researches are very interesting and this book should be studied by all those interested in medico-legal questions. Entomology may help us to solve many difficult questions of the kind treated of in this volume. It only remains to state that the different types of insect are minutely described and in many cases well illustrated. We consider this volume a model of clearness, and its author is to be congratulated on the success of his accurate scientific observations.

Short Contributions to Aural Surgery. By Sir WILLIAM DALBY. London: J. & A. Churchill. 1896.

THE third edition of this well-known work now includes nineteen papers on subjects of great importance in aural surgery. Five papers have been added, and when we point out that they include such subjects as Functional Deafness and the Functions of the Membrana Tympani illustrated by Disease, it is easy to predict that the value of the work is enhanced. Dealing with the subject of foreign bodies in the ear, we think Sir William Dalby hardly lays enough stress on the use of the syringe and posture as being the only measures which really ought to be attempted in these dangerous cases, by those not used to the manipulation of instruments in the auditory canal. It would have been of importance, also, in the chapter on Bubble Remedies in Aural Surgery if Sir William Dalby had given us his estimate of the value of excision of the ossicles in chronic aural catarrh. The leading feature of this little book is that it represents the experience of the author. It does not pretend to embrace a complete account of all the subjects treated of from literature or the experience of others. Any faults which can be found with the papers are rather those of omission, which is inevitable. Another important feature is the insistence by the author that treatment should be based upon accurate knowledge and pathological reasoning. It is, perhaps, not too much to say that no branch of surgery has suffered so much in real advance as the management of diseases of the ear from wilful or ignorant neglect of the only right principle which underlies the treatment of disease. A quotation of one sentence will illustrate this feature of the work: "Tinnitus, like pain, is a symptom, and it has to be endured unless the cause can be removed or disappears." Imbued with these principles the chapters on diagnosis without perceptible changes and on "Bubble remedies" are very excellent. In the latter Sir William Dalby, supported by Politzer, severely condemns the indiscriminate use of injections of pilocarpine in all forms of deafness. As there is no smoke without a fire, so there are few plans of treatment which have not some foundation in truth. With regard to nasal obstruction, for instance, we think that occasional operations in early catarrh, as the use of the cautery, the removal of portions of hypertrophied bone, and the like, are not devoid of utility, provided the cases are selected with care and a mind free

from operative or pecuniary bias. We may conclude by saying that this book, though comparatively small, contains a vast amount of information written in a pleasant and agreeable way. The quotation from "Oliver Twist" on the Hebraic intonation of the sufferers from adenoid growths is as apt and true as ever.

LIBRARY TABLE.

The Guide to South Africa, 1896–7. London: Sampson Low, Marston and Co., Limited. Cape Town: J. C. Juta and Co. Price 5*s.* 6*d.*—This volume, which is well known to persons interested in South Africa, comprises in a conveniently small compass a large body of useful information, and will be found a valuable handbook by tourists and settlers in the country. It deals in a chatty way with the geography, natural history, laws, institutions, and political history of the various States of the great Southern peninsular, and may not inaptly be called the Baedeker of those parts. Especial attention has been devoted to an itinerary of the entire country, which is distributed into twenty-two different routes, traced with a minute description of every one. This part of the work has been done evidently with great care, and, so far as we can judge, with proportionate success. A book of this description cannot possibly escape the reproach of numerous errors in points of detail. For instance, we notice that, speaking of the Transvaal coinage, the writer says: "The money coined by the Transvaal National Mint only differs from the English in the quality of the metal, which is a shade finer, and in the device upon the coin itself." This is a very curious error, for, in point of fact, the Transvaal gold is by law required to be not finer than British sterling, but of identical fineness with it, and the "remedy"—that is to say, the deviation on one side or the other from the standard which the law allows—is the same as in the case of British coin. In fact, the Transvaal Statute is simply a local appropriation of the Act of Parliament which regulates British currency, and there is no more ground for this statement that Transvaal gold is finer than British than there is for the impression that prevails among the London money-changers that it is of inferior quality. But upon points like this and the lists of local newspapers, in which also we have detected one or two slips, the reader will, as a matter of course, go for authoritative information to more authoritative works. In dealing with South Africa as a climatic refuge for the sick the author is commendably careful. He does not lump the whole country together, as if the South-West Coast were as hot as the plains of the Karoo, or Johannesburg as free from organic germs as the trackless prairie. He quotes various authorities on the choice of health-resorts, and shows that the low barometric pressure, the dryness of atmosphere, and the freedom from extreme heat or cold, each or all of which may be recommended by the medical profession in many constitutional states, notably, phthisis, prevail in South Africa if the proper district be sought out.

A Systematic Course of Geometrical Drawing. By T. A. V. FORD, M.R.C.S. Eng., Assistant Master of Haileybury College. London: George Philip and Son. Liverpool: Philip, Son, and Nephew. 1896. Pp. 208. Price 3*s.* 6*d.*—This is a well-constructed, careful little book, and calculated to satisfy its aim, which has been to supply a text-book suitable for class use, providing the amount of manual exercise necessary for young draughtsmen, and forming a systematic course for engineering students or candidates for Sandhurst. All the necessary problems are set and the geometrical proof is given on the opposite page. Exercises arising out of the problems are added, the answers to which, worked to two places of decimals, are given at the end of the book. A sensible introduction on the use of the necessary instruments and the best methods of drawing prefaces a good, neat little manual.

JOURNALS AND REVIEWS.

Journal of Mental Science, October, 1896.—In a number replete with interesting psychological matter there are several important articles which deserve more than passing attention. The most noteworthy contribution is the presidential address delivered by Dr. Mickle at the annual meeting of the Medico-Psychological Association. In selecting the subject of Mental Besetments or Obsessions, Dr. Mickle has rendered a distinct service, for it embraces the discussion of a number of intricate points which, if they are not altogether symptomatic of phases of insanity, yet are often found on the borderland of mental disease. Both from a medico-legal and a clinical point of view the author's treatment of his difficult thesis is very able and lucid, and his careful survey of a field which is of the deepest interest to psychologists is worthy of all praise. Dr. R. S. Stewart contributes a valuable statistical paper on the increase of General Paralysis. He shows that this increase is greatest in large urban centres, more particularly in coal-exporting seaports. His figures prove that the disease is more prone to attack males than females, and that married men are more liable to it than the unmarried in the proportion of five to one. It appears that the etiological factors responsible for the increase of the disease are alcoholic intemperance, sexual excess, and venereal disease, together with an increase in wealth apart from the knowledge how to use it. These are preventable causes, and although the remedy is apparent it is no easy matter to get people to keep to the path of physiological righteousness. Some time since a committee of the Medico-Psychological Association was appointed to inquire into the question of criminal responsibility. They reported that they were unable to make any recommendation for the amendment of the law. The report led to some discussion, and a considerable amount of adverse comment was elicited; there can be no doubt that in dealing exclusively with the major degree of crime the committee omitted much from their investigations and calculations, and their report left much unsaid on the question of criminal responsibility.

The Birmingham Medical Review for October contains, among other interesting matter, a paper on the Cirrhotic Liver by Dr. H. D. Rolleston and Dr. W. J. Fenton. This paper is an elaborate analysis of 114 cases in which hepatic cirrhosis was present and is a mine of information. In forty-seven cases death was due directly to the cirrhosis and in sixty-seven to other causes. We have not space to give all the writer's conclusions, but they are well worth studying. Dr. Christopher Martin reports some striking cases of Retained Menses and Mr. Nicol gives a review of Work done on the Thyroid gland. Dr. W. Collier reports a Case of Double Pneumonia with Double Empyema. The patient was a youth aged eighteen years. Both pleural cavities were incised, a week being allowed to elapse between the operations, and recovery was perfect There is also a very appreciative review of the report of THE LANCET and the Hyderabad Commissions on Chloroform.

The Dublin Journal of Medical Science for October is mainly a "students' number." The principal original communication is Dr. J. W. Moore's paper on Tuberculosis, which was read at the recent meeting of the British Medical Association.

Journal of the Sanitary Institute. Vol. XVII. Part II.—There is in this part a very concise paper on the powers and duties of sanitary authorities under the Factory and Workshops Acts, which was read at the April meeting by Dr. John Sykes. The author is of opinion that there is much

need for consolidating the Acts relating to these matters, and we have already expressed a similar opinion in our annotation on the subject in THE LANCET of Dec. 7th, 1895. In the same volume, and under the title of "Sanitation in the Mercantile Marine," Mr. W. G. Romeril completes a most valuable paper which he commenced in Part 1. The article is accompanied by some capital diagrams and is written by one who is thoroughly familiar with the construction of vessels and with the habits of those who work in them. As the author observes, it would be instructive to many shipowners to take a trip to the East *viâ* the Suez Canal in a modern "tramp" steamer and to examine for themselves how far the conditions obtaining are as far as practicable conducive to health. In vessels such as these it is certainly the condition under which the crews sleep and do their work which needs most attention, and no one who is familiar with the arrangements common upon vessels, and who has seen the conditions under which the stokers work in the tropics, can for a moment rest content with the methods of ventilation so frequently found. Mr. Romeril discusses the engine-room and the stokehold, the effluvia from the cargo and bilge, the forecastles, the water supplied at foreign ports, and numerous other subjects which affect the health of our seagoing population. We trust that Mr. Romeril will republish his paper in pamphlet form, as it is one which will be of much use to port medical officers of health and sanitary inspectors as well as to those who commence their medical career by undertaking for a time the duties of surgeon on board passenger ships.

The Monist.—Among the abstruse metaphysical articles which form the special feature of this American quarterly there is a lengthy examination of Professor Huxley's views on the subject of the "automatism" of the lower animals. It is from the pen of Professor C. Lloyd Morgan, who concludes that the results of conscious choice and selection are observable in the behaviour of young birds or other animals, and that on the same processes depend the development of those habits which are acquired as opposed to those which are congenital. In a paper with the bewildering title of "Sub-conscious Pangeometry" Professor Halsted of Austin, Texas, argues that Bolyai and Lobachewski, the former of whom wrote in 1823, must be looked upon as the real founders of the non-Euclidean geometry.

University of Pennsylvania Medical Magazine.—Dr. H. W. Gross contributes a very practical paper on the Klebs-Löffler bacillus in apparently normal throats and noses. In the Children's Hospital of Boston, during the six months from Dec. 1st, 1895, to June 1st, 1896, culture examinations were made of the throats and noses of all cases entering the hospital, two cultures, twenty-four hours apart, being taken on admission, and subsequently repeated once weekly as long as the case remained in the house, unless the Klebs-Löffler bacillus was found, in which case daily examinations were made until three successive negative cultures, twenty-four hours apart, were obtained. From the investigations conducted on these lines it was shown that out of 316 cases—the total number examined—26 at one time or another showed the presence of the Klebs-Löffler bacillus. Out of these 26 cases showing the organism 2 may be said to have had clinical diphtheria. Omitting these 2, the result was that out of 314 normal throats and noses examined 24 (= 7·9 per cent.) contained the bacillus of diphtheria. In 1 of the 26 cases—a boy aged nine years—daily cultures showed, with a few exceptions, the persistence of the organism on the nasal mucous membrane for 103 days; cultures taken on the ninety-second day proved fatal to a guinea-pig in four days.

New York Post-Graduate.—Among other pieces of information we see that the money value of the books, pictures, letters, &c., collected by Dr. T. A. Emmet, the gynæcologist, is estimated at $240,000, but to avoid the risk of dispersing the collection it has been sold for $150,000 to the great New York Library, to be made of the Astor, Lenox, and Tilden Libraries.

The New York Medical Journal.—The Use of Methyl Violet (pyoctanin violet) in Malignant Disease is the subject of a paper by Dr. J. Griffith-Davis, who has had four cases in which the application of it, either in a suppository or in a 10 or 15 per cent. alcoholic solution, seemed to be very beneficial. One of these patients suffered from carcinoma of the uterus, one from epithelial carcinoma of the breast, and two from spreading ulcer of the cheek.

THE ASSOCIATION OF FELLOWS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A MEETING of the Committee of the Association of Fellows of the Royal College of Surgeons of England was held on the 19th inst., at 5.30 P.M., at 25, Grosvenor-street, W., Mr. Timothy Holmes, vice-president, being in the chair.

A letter was read from the Society of Members confirming a resolution to adopt Mr. Rivington as a candidate for one of the vacant seats on the General Medical Council. As regards other candidates each Association is to reserve its liberty of action.

A resolution of the Civil Rights Defence Committee was communicated by Mr. Holmes, who said that he was prepared to move a resolution in favour of the Council being asked to assist Mr. Anderson in the defence of his professional rights, and after some discussion it was agreed that Mr. Holmes should give notice of the following motion, the Society of Members being asked to support it and nominate a seconder: "That this meeting trusts that the Council will see fit to contribute a substantial sum from the funds of the College towards the defence of the rights of Mr. R. B. Anderson, these being the common rights of the Fellows and Members which under By-law 15 the Council has undertaken to defend."

Mr. R. B. Anderson was unanimously elected a member of the committee.

The committee then proceeded to the consideration of the formation of an election committee to promote the candidature of Mr. Rivington for a seat on the General Medical Council. A resolution was passed to the effect that a committee be formed to support Mr. Rivington's candidature, and a provisional committee was formed with Mr. R. B. Anderson as hon. sec. *pro tem.*

The committee then adjourned.

FREEMASONRY.—*Æsculapius Lodge, No. 2410:* The installation meeting was held last week at the Café Royal, Regent-street, when there was a large attendance of members and visitors. Thomas Dutton, M.D. Durh., M.R.C.P. Edin., was duly installed Master for the ensuing year by G. Crawford Thomson, M.D. Durh. Edward H. Ezard, M.D., D.Sc. Edin., and H. W. Kiallmark, M.R.C.S. Eng., were appointed as Wardens. The Rev. W. Harrison, M.A. Cantab., was appointed Chaplain; G. Danford Thomas, M.D. Brux., Treasurer; and J. Pickett, M.D. St. And., Secretary. The audit committee's report, which proved very satisfactory, was duly adopted. After propositions for the election of new members had been received the Lodge was closed. About forty members subsequently dined together and spent a very enjoyable social evening.—*The Rahere Lodge, No. 2546:* The Rahere Lodge held the first meeting of the second year of its existence at Frascati's Restaurant, Oxford-street, on Oct. 13th, Brother Alfred Cooper, F.R.C.S. Eng., the W.M., being in the chair. Mr. W. E. Bennett, F.R.C.S. Eng., Mr. J. F. Nell (of Yorketown, South Australia), and Mr. Wm. Netterville Barron were admitted into Masonry. Brothers W. H. Cross, Edgar Willett, Balfour Neill, G. F. Collins, J. Valérie, T. Hampton, H. W. Lance, and H. W. Newton were admitted to the second degree by Brother R. J. Reece, assisted by Brother J. H. Gilbertson of Hitchin. Eighty members and visitors were present, of whom fifty remained for the banquet.

THOMAS WAKLEY,

THE FOUNDER OF "THE LANCET."

A BIOGRAPHY.[1]

CHAPTER XLI.

The Death of Frederick John White. — The Report to Sir James M'Grigor. — The Action of the Vicar of Heston. — Wakley holds an Inquest. — Adjournment for Assistance of Mr. Hall. — Second Adjournment for Assistance of Mr. Erasmus Wilson. — The Evidence. — The Verdict. — Public Opinion and the Disputes that arose. — Wakley's Attitude Criticised. — The Fortunate Result of the Inquest.

ON June 15th, 1846, at the Cavalry Barracks, Hounslow Heath, a private of the Seventh Hussars named Frederick John White received 150 lashes with the cat-o'-nine tails, which were administered by two regimental farriers in pursuance of a sentence pronounced by a district court-martial held to inquire into a sudden assault made by him upon his sergeant. White took his flogging manfully in the presence of his colonel and Dr. Warren, the surgeon of the regiment, and walked to the station hospital, of which he continued an inmate until the day of his death. During the month that elapsed between his entry into the hospital and his end he at one time was apparently convalescent, the external wounds on the back having healed. Suddenly he developed serious symptoms of cardiac and pulmonary mischief. Pleurisy and pneumonia developed, followed by complete exhaustion and paralysis. On the occurrence of these symptoms a communication was made by Colonel Whyte and Dr. Warren to Sir James M'Grigor, the Director-General of the Army Medical Department, for the scandal that would ensue if Private White died in the hospital, where he had been sent to recover from the effects of a military flogging, was clearly foreseen. Sir James M'Grigor instructed Dr. John Hall, a first class staff-surgeon, to proceed to Hounslow and to report to headquarters upon the condition of Private White and the circumstances of his illness. Dr. Hall arrived in time to see White die. He reported to the Director-General that on July 6th, the very day upon which it had been intended to discharge White from the hospital as convalescent, he began to complain of pain in the region of the heart; that from that day he went downhill rapidly, and that it would be difficult to ascertain the cause of death without making a careful post-mortem examination. On July 13th a post-mortem examination was accordingly made by Dr. Hall, Dr. Warren, and an assistant staff-surgeon, Dr. Reid. The result of this examination was reported to Sir James M'Grigor briefly as follows:—That the part upon which the punishment had been inflicted had healed and that the discolouration to be seen on the back of the corpse was due to the gravitation of the blood to the parts, White having been strictly confined to his bed for the last days af his life. A portion of the integument from between the shoulder-blades, over the part where the punishment had been most severe, having been removed, was found to be natural and, with the exception of the discolouration already noted, quite healthy. There were signs of old pulmonary and cardiac mischief and of recent pneumonia, pleurisy, and endocarditis, and the liver was found to be considerably enlarged. The certificate of the cause of death, "drawn up for the satisfaction of the officer commanding the Seventh Hussars," to use the signatories' own phrase, ran as follows:—

"Having made a careful post-mortem examination of Private Frederick White of the Seventh Hussars, we are of opinion that he died from inflammation of the pleura and of the lining membrane of the heart; and we are further of opinion that the cause of death was in no wise connected with the corporal punishment he received on the 15th of June last.

"(Signed) JOHN HALL, M.D., *Staff Surgeon First Class.*
J. L. WARREN, M.D., *Surgeon Seventh Hussars.*
F. REID, M.D., *Assistant Staff Surgeon.*"

The death was registered at Isleworth on Dr. Warren's certificate as having occurred from inflammation of the heart, and on the same day the regimental serjeant-major informed the Rev. H. S. Trimmer, the vicar of Heston, in which parish the Hounslow Cavalry Barracks were situated, of the intention of the authorities to bury the deceased on the following day, and further added that the death was the result of "liver complaint." The discrepancy between the reason assigned by the surgeon to the regiment and that assigned by the sergeant-major for the death of White led to inquiries, in answer to which the latter frankly stated that the deceased private had been flogged in military fashion *five* weeks before his death. The vicar said that under those circumstances he should require to have the authority of the coroner before permitting the funeral to take place, and communicated with Wakley, who issued the usual warrant for an inquest to be held on July 15th.

Accordingly, on July 15th an inquest was held at the barracks. After the coroner and the jury had examined the body the three surgeons who had made the post-mortem examination for the information of the Director-General and the satisfaction of the colonel of the regiment presented themselves to give evidence. It became known, however, that their report to Sir James M'Grigor and to Colonel Whyte had been made without any examination of more than a portion of the skin of the back. They had not looked at the spine or the muscles covering it or even beneath the skin. This was the more extraordinary because the man had been paralysed in his lower extremities for two days before his death and had lost control over his bladder. The significance of the omission was pointed out by Wakley to the jury, and on his advice they nominated a surgeon unconnected with the persons interested in the case to complete the examination of the body. Mr. Horatio Grosvenor Day, a surgeon residing at Isleworth was nominated by the jury to make an independent examination, and Wakley having made out the requisite order for this gentleman adjourned the inquest until the twentieth of the month. But at the adjourned inquest it was elicited that Mr. Day also had not considered it necessary to make any examination at all of the back and spine of the deceased, having clearly mistaken the object for which he had been asked to give his assistance. Wakley considered the omission very unfortunate, as the inquiry could not proceed until a fresh post-mortem had been made with special reference to the matters upon which information was required by the court. The jury requested that before Wakley adjourned the inquiry again he would appoint some London surgeon unconnected in the remotest way with the circumstances of the case and of undeniable position in his profession to make a thorough examination of the body and give the court and jury the benefit of his views. The coroner appointed Mr. (afterwards Sir) Erasmus Wilson and issued a warrant for the disinterment of the body, adjourning the inquest for the second time until Monday, July 27th. On this day, and also on Aug. 3rd—for

[1] Chapters I., II., III., IV., V., VI., VII., VIII., IX., X., XI., XII., XIII., XIV., XV., XVI., XVII., XVIII., XIX., XX., XXI., XXII., XXIII., XXIV., XXV., XXVI., XXVII., XXVIII., XXIX., XXX., XXXI., XXXII., XXXIII., XXXIV., XXXV., XXXVI., XXXVII., XXXVIII., XXXIX., and XL. were published in THE LANCET, Jan. 4th, 11th, 18th, and 25th, Feb. 1st, 8th, 15th, 22nd, and 29th, March 7th, 14th, 21st, and 28th, April 4th, 11th, 18th, and 25th, May 2nd, 16th, 23rd, and 30th, June 6th, 13th, 20th, and 27th, July 4th, 11th, 18th, and 25th, Aug. 1st, 8th, 15th, 22nd, and 29th, Sept. 12th, 19th, and 26th Oct. 3rd, 10th, and 17th respectively.

the length of the proceedings compelled a third adjournment—the medical evidence was at last given completely.

It now appeared that the unfortunate White had received no food for seventeen hours before his punishment, and that after he had been flogged and had walked over to the hospital he had requested the sergeant to give him a basin of tea as he felt very faint, which request the sergeant had refused. From the notes in the hospital ward-book and from the medical register, which were both produced, and from statements in the course of Dr. Warren's evidence, it seemed that the patient when he entered the station hospital immediately after the flogging had been inflicted was medically examined, and his back was found to be lacerated and covered with blood, while between the shoulder-blades there was a wound about six inches long and four or five inches wide. He was said to be "severely punished from the neck to the loins." Fomentations of luke-warm water were employed until June 22nd, and from that date until June 25th the dressing was a cetaceous lead ointment. On June 25th a number of small boils appeared on the patient's back. Dr. Warren said that the poultices were ordered to be applied immediately, but in the ward-book dated June 23th it was stated that the poultices were ordered for another patient. At any rate, White did not get them on the 25th. On the 28th the medical register said that the boils were discharging but much inflamed. After this some little discrepancy was revealed between the register for which the medical officer was responsible and the ward-book kept by the hospital orderly. On July 1st the register reported that the back was nearly well, "only for the small boils that have not cicatrised over," but the hospital orderly's report showed that the poultices were still being applied to cover four or five boils. From July 1st to July 4th the medical register was silent, but the ward-book told of purges and poultices. On the latter date the patient was much better, volunteered to clean an outhouse, and actually did half an hour's work. But on July 5th he complained of pain in the right side, and on the 6th the medical register spoke of a pain that was located in the region of the heart and increased on inspiration. On the 7th he was obviously in pain and ill. On the 8th the symptoms of pleurisy and pneumonia were marked, and this condition was treated by purgatives and the abstraction of thirty-two ounces of blood. On the 9th a blyther note recorded the great relief which had followed the bleeding. On the 10th he was removed from the surgical to the medical wards as paralysis was found to have supervened in the lower extremities. On the 11th the register recorded the patient's death. He had totally lost motion and sensation in the lower limbs and control over the bladder. He had a rapid, irregular pulse, a cold skin, and was throughout the day in a condition of stupor or collapse. He died in the evening, three-quarters of an hour after Dr. Hall's arrival. Such was the general gist of the examination of Dr. Warren as medical officer of the regiment, of hospital orderlies, sergeants, and certain other patients in the hospital.

Dr. Warren, who was not sworn, gave more particular medical evidence. He deposed that he had examined Private White most carefully to ascertain if he was fit to undergo corporal punishment or imprisonment and had certified in the affirmative. He stated that the injured back was nearly well at the end of a fortnight, and that he had intended to discharge the patient from hospital on July 5th, and had told him so on the previous day. When for the first time the patient complained of internal pains he was examined with the stethoscope, and from that time until his death he was treated for inflammation of the heart and pleura. Dr. Hall, who was sworn, described the results of the post-mortem examination made by him in company with Dr. Warren and Dr. Reid, his presence being due to the command of Sir James M'Grigor. These were in accordance with the view already expressed in their oint certificate, that the deceased had died from inflammation of the pleura, the lung, and the lining membrane of the heart. Dr. Hall had made no examination of the muscles of the back or of the parts below the skin, a piece of skin which had been dissected from the back having been examined and found healthy. He did not believe that the condition of the internal organs had any connexion with the injuries received during the flogging. Dr. Reid gave evidence to the same effect, merely explaining at length what were the exact post-mortem appearances of the heart. Mr. Horatio Grosvenor Day then deposed that he first examined the body of the deceased on July 16th at Hounslow Barracks by the order of the coroner. He then came to the conclusion that death had been produced by pleurisy and pneumonia. He had been hampered in his examination by the fact that the body had previously been examined by the three military surgeons, so that many of the viscera were out of place and the contents of the chest much decomposed. He made no examination of the muscles of the back or of the spinal cord. He was present at such an examination made on July 22nd by Erasmus Wilson in Heston Churchyard, the body having been exhumed by the coroner's order, and had signed with that gentleman a statement of the appearances that were then present in the tissues of the back. Erasmus Wilson, Consulting Surgeon to the St. Pancras Infirmary, Lecturer on Anatomy and Physiology at the Middlesex Hospital Medical School, and author of works on those two subjects and on cutaneous diseases, gave evidence next. He said he had examined the back of the deceased on July 22nd by order of the coroner. He had examined the back only, the other parts of body not being in a state to be further scrutinised. Upon raising the muscles over the region of the ribs and spinal column he had found the deepest layer in a state of disorganisation. Between the sixth and seventh ribs the muscles were in a pulpy state, and in the groove between the ribs and spine they were in a similar condition. The contents of the spinal canal were in a state of decomposition. Erasmus Wilson considered that two questions arose out of the foregoing facts: (1) How did the pulpy disorganisation of the muscles originate? and (2) Could their state have influenced the organs of the chest? He considered, firstly, that the pulpy softening of the muscles was due to the excessive contraction during the agony of punishment which had produced laceration and inflammation of their substance. Regarding the second question, he had no doubt that these causes were responsible directly or indirectly for the inflammation of the contents of the chest. Cold and moral depression might have had their influence, but the influence of laceration and decomposition of muscles closely adjacent to the lining membrane of the thorax would certainly have produced the same effect. In this case he pointed out that the morbid changes in the pleura took place on the same side as the disorganisation of the muscles. It was his opinion that Frederick John White would be living had not the punishment been inflicted. He had no doubt whatever on the point.

On August 3rd the medical witnesses made additional statements. Dr. Warren and Dr. Reid, having heard the depositions of all the medical witnesses, said that they did not believe the death to have been in any way due to the punishment inflicted. Mr. Day, who had assisted Erasmus Wilson to make the post-mortem examination upon which that gentleman had based his opinions, considered the cause of the change in the muscles a matter of conjecture. That they were changed was certain, but the curious appearances might have been due to putrefaction. The flogging might have indirectly caused the disorganisation. A paper signed by him and by Erasmus Wilson was put in proving that whatever the pathology or causes of the development of this

pulpy disorganisation of the muscles of the back might be the condition had actually existed and was witnessed by both experts. Mr. Day added that the softening of the muscular fibre had been noticed in the external intercostal muscles but not in the internal intercostal muscles, and could not, therefore, be in close proximity to the pleura, so as to account for a spread of mischief to that membrane.

Erasmus Wilson having heard the additional statements in court, as well as the depositions of all the witnesses, gave it as his opinion that death had been due to the flogging and its effects. The painful laceration of the skin had, he argued, affected the internal organs, and in support of this he quoted the well-known connexion between superficial burns and visceral lesions. He pointed out as an anatomical fact that there are no internal intercostals in the particular region in question, so that Mr. Day's remark must count for nothing. If one layer of muscles was affected in that situation it must have been in contact with the pleura.

The coroner having summed up the evidence the jury returned the following voluminous verdict:—

That on July 11th, 1846, the deceased, Frederick John White, died from the mortal effects of a severe and cruel flogging of one hundred and fifty lashes which he received with certain whips on the 15th day of June, 1846, at the Cavalry Barracks on Hounslow Heath, at Heston; and that the said flogging was inflicted upon him under a sentence passed by a district court-martial composed of officers of the Seventh regiment of Hussars duly constituted for his trial. That the said court-martial was authorised by law to pass the said severe and cruel sentence; and that the said flogging was inflicted upon the back and neck of the said Frederick John White by two farriers in the presence of John James Whyte, the Lieutenant-Colonel, and James Low Warren, the surgeon, of the said regiment; and that so and by means of the said flogging the death of the said Frederick John White was caused."

In returning their verdict the jury made use of the strongest language in an appended rider, wherein they expressed their horror and disgust that the law of the land provided that the revolting punishment of flogging should be permitted upon British soldiers; and they implored "every man in the kingdom to join hand and heart in forwarding petitions to the legislature praying in the most urgent terms for the abolition of every law and order and regulation which permits the disgraceful practice of flogging to remain one moment longer a slur upon the humanity and fair name of the people of this country."

Upon the announcement of this verdict the great excitement which the proceedings had caused in the public mind became evident. The newspapers teemed with allusions to the inquest, generally of an uncomplimentary nature towards the Service. This was due not so much to the merits of the humane side of the question as to the curious blundering of the military authorities. Such minor points as the fact that the first necropsy had been made, not for the satisfaction of justice, but "for the satisfaction of the Colonel of the Seventh Hussars"; that the sergeant-major had reported the case to Mr. Trimmer as one of liver complaint, and had exaggerated the interval between the flogging and the death; and that the patient a few hours before his death had been moved from his ward to give an appearance of a break in the continuity of his disease, gave colour to the popular view that attempts had been made to baulk honest inquiry. The inhumanity of flogging the man after a seventeen hours' fast, and refusing him a cup of tea after he had paid the penalty of his insubordination, also prejudiced the popular opinion profoundly against White's judges. The subject was incidentally noticed in the House of Commons, when Wakley was found to be prepared to combat the statements of his critics, for the political journals had warned him of the tone which the comments upon his behaviour as coroner would take. He knew that he would be accused of partiality, for in 1836, in the course of a debate upon what was known as the Mutiny Bill,[2] he had protested strongly against the flogging of insubordinate soldiers, and had stated that the brutal punishment had been followed by death. Feeling certain that he would be reminded that he could not have been free from prejudice while conducting the inquiry, he had provided himself with three letters—one from the solicitor who had watched the case on behalf of the officers of the Seventh Hussars; one from Mr. Trimmer, the Vicar of Heston and a Middlesex magistrate, whose public spirit and acumen had led to the inquiry being made; and one from an independent spectator, a barrister and retired Indian judge. The third letter was an enthusiastic encomium of Wakley's behaviour; but the other two, which were couched in soberer terms, declared that his conduct of the inquest had been fair and impartial, and that in his summing-up the coroner had laid no special stress on the arguments of either side. The first two of these Wakley read aloud to the House, and from that moment routed any plans on the part of his political foes to make insulting reflections.

Some quarrelling, however, over the verdict was inevitable. The country was so strongly in favour of the humane rider appended by the jury that all who took the other side, whether from honest conviction or from reasons of convenience, were stung into justification of their attitude. A triple course was then open to them—they could abuse the judge as biased, the expert witness for the other side as ignorant, or the jury as foolish. The jury were let alone. They were drawn from the peop'e, and their verdict was popular, and to say that they had been unable to follow the reasoning of the case would have been exceedingly bad policy. In political circles Wakley had taken care of himself by reading to the House remarkable testimony to his impartiality, while he was always an awkward subject for abuse, as he had an inconvenient habit, when he seemed most careless, of turning suddenly and rending his abusers. There remained Erasmus Wilson, at this time only thirty-seven years of age and by no means the important figure in medical science or politics that he was twenty-five years later. He was simply a rising young man. Wilson had against his views the views of Mr. Day and of the three military surgeons. The evidence of the latter was considered by the public to be tainted. No doubt they had earnestly desired, for the sake of their department and their duties in that department, that the death of White should be found to be unconnected with the punishment he had received. But there was no reason to suppose that they did not speak with perfectly honest conviction, and on reading their evidence after the lapse of fifty years it can be well understood that many should have been of their way of thinking and that they themselves should have been entirely certain that Erasmus Wilson and the jury had erred. That White died from pneumonia, pleurisy, and endocarditis there was no doubt. That the punishment he had received might *directly* cause these terrible sequelæ was just conceivable. The probability of the conception was increased when the subject, from constitution, from previous damage to structure, or from ill-regulated habits of life, had a predisposition to readily break down, and all these factors were present in White's case. So that in arguing that the flogging had no connexion whatever with the death the military surgeons had a very difficult task when the *indirect* effects of such treatment were taken into account. The punishment that White had undergone would certainly lower his whole vitality and leave him more susceptible of any malign influence either existing in himself or present in his environment. It was allowed by all that the connexion between flogging and pleurisy with pneumonia and endocarditis was difficult to trace, while the

[2] See Chapter XXXIII. of this Biography.

connexion of two at any rate of these pathological conditions with cold was obvious. But how far the effects of cold would be rendered additionally mischievous where the resistance of the subject had been already annulled by physical torture was another matter. The military surgeons had been in fault in giving their definite opinion that flogging could have had nothing to do with White's death before making a thorough post-mortem examination, and without remembering how difficult it would be to prove that no *indirect* injury had accrued to White from so serious a punishment.

Mr. Day's evidence was perfectly honest and straightforward, but it really amounted to nothing at all. His first necropsy was admittedly made upon the parts of the body that had already been examined by three other medical men, under circumstances that precluded him from forming any judgment, and his further examination of the body consisted in looking on while Erasmus Wilson discovered the pulpy condition of the muscles of the back. The position of Erasmus Wilson was not an easy one. He found a pathological state for which he could give no very definite reason, and one which, indeed, was unknown to science. That he found the condition admits of no doubt, firstly, because, like others, he had no object in giving evidence except that of establishing the truth; and, secondly, because Mr. Day, who did not agree with the general view of the case, also recognised the pulpy state of the muscles, and explained it by saying that the changes were possibly putrefactive. With this condition of the muscles, for which he admitted he could find no scientific precedent, Erasmus Wilson tried to connect the mischief in the pleura, lungs, and heart—a direct sequence of pathological events ending in death. But the reasoning was not cogent. The analogy drawn from the fact that large surface burns were frequently followed by visceral lesions possessed some point, but was only an analogy. The assertion that the changes could not be putrefactive because they had taken place in the deep structures while the more superficial planes of the body remained unaltered was only an assertion of a probability. All these arguments were thrashed out in THE LANCET, to which Erasmus Wilson contributed several earnest and elaborate papers in explanation of his evidence, but it is doubtful if either side ever convinced the other. What, however, is not doubtful is this—that the public cared not a jot for scientific evidence in the matter. It was not Erasmus Wilson's able scientific arguments which accounted for the verdict of the jury with its pathetic rider. It was his broad and comprehensive assertion that, whatever might be the pathological details, had it not been for the flogging the man Frederick White would be alive, which obtained from a jury of Frederick White's countrymen a verdict affixing the stain of blood-guiltiness upon the regulations of Her Majesty's army. The jury felt that they represented the feelings of Great Britain. Flogging in the army must be abolished and they were doing their best towards that end. Here they had a case in which directly or indirectly a man's death was due to the horrible practice. Let others settle the possibility of the directness, or the measure of the indirectness, the verdict must be one of manslaughter against the regulations.

Such is the story of the famous Hounslow inquest, which not only aroused more public interest, probably, than any inquiry ever held in a coroner's court, but certainly placed a national veto upon the inhuman practice of flogging in the army. Great modifications were almost immediately introduced into this method of punishment; so great that when in 1881 the Army Act formally abolished the practice hardly anyone knew that it was still sanctioned by the law of the land.

(To be continued.)

CHOLERA ON BOARD SHIP.

By F. C. SHAW, M.R.C.S. ENG.,
INDIAN EMIGRATION SERVICE.

ON Feb. 20th, 1896, at 4 P.M., 581 Indian coolies embarked at Calcutta in a sailing ship for Fiji. The place occupied by them on board was the "between decks," which was cleared and open from stem to stern with the exception of a wire netting partition amidships to divide the single men from the married people, children, and single women. It was practically a large room in which under ordinary circumstances, considering that the space per head was some eighty cubic feet, fair ventilation was maintained. On this occasion there was a mean respiratory impurity of 0·905 CO_2 with all ventilation open. The passage down the River Hugli to the Sandheads took two days. At about 11 P.M. on Feb. 22nd, the second day after embarkation, a girl aged five years was brought to the hospital on the upper deck; when I saw her she was dead and quite cold. Nothing coherent could be got from the mother, who was herself suffering from seasickness. At daylight a post-mortem examination was made and these points were noted: (1) the body was well nourished, the eyes were sunk, and there was general dryness on section; (2) the stomach contained gruel-like matter; (3) there was a pink blush over the lower intestines, which contained gruel-like matter; (4) the liver was pale and the gall-bladder was distended; (5) the lungs were bloodless and shrunken; (6) the heart was distended with dark blood on the right side, the left side was empty; and (7) the brain was healthy. Cholera was suspected. At 11 P.M. on Feb. 23rd the mother of the girl mentioned above was brought from below with symptoms of cholera, which proved fatal in twenty-four hours. On Feb. 25th four women, a girl, and a boy were attacked. Three of the women died in twenty-two, sixteen, and eleven and a half hours respectively, and the girl in twenty-four hours, whilst one woman and the boy recovered. On Feb. 26th two boys were seized; one died in twelve hours, but the other recovered. On Feb. 28th a woman was attacked and died in four days.

Altogether there were eleven cases and only three recoveries, equal to a mortality of 73 per cent. of persons attacked. The recoveries were tedious and the patients required very careful treatment as to feeding and nursing. Isolation was maintained until health was fairly re-established. The early cases were taken into hospital until a large tent between the poop and the top of the hospital (7 ft. above the main deck) was ready, when all cases were placed in it, and as much isolation was maintained as was possible in a ship of 1400 tons on which there were over 600 persons. The place occupied below by each cholera patient was immediately on her removal scrubbed with a 30 per cent. solution of carbolic acid, all the blankets and clothing of the patients were thrown overboard, the dejections were disinfected and, as well as the bodies of those who died, at once committed to the sea, whilst the "between decks" was fumigated with sulphur for an hour or more each morning.

The treatment pursued was generally on the lines recommended by Mr. C. N. Macnamara in Davidson's "Diseases of Warm Climates"—early small doses of opium, then acetate of lead and dilute sulphuric acid alternately, sinapisms, hot bottles, and friction, but it seemed to have little effect on the progress of the disease. The want of ice to combat incessant vomiting and insatiable thirst was much felt.

Whilst the epidemic was in progress there were fifteen cases of ordinary diarrhœa and forty of dysentery. The mean temperature was about 80° F. with a northerly breeze and fine weather. All the cases occurred in the after part of the vessel among the women and children, and none of those attending on the sick were attacked. As all the cases but one were declared within five days of embarkation it is possible that in ten of them the disease was contracted on shore; some river water may have been drunk on the way down; the closest supervision will not prevent this, and the last case may have arisen in this way. The history of the outbreak seems to point to some centre of infection in the Calcutta Coolie Depôt to which women and children only had access. It is also further proof, if any be needed, that the surest means of preventing the spread of cholera are complete isolation of cases and the immediate destruction of all infecting matter and infected material.

THE LANCET.

LONDON: SATURDAY, OCTOBER 24, 1896.

THERE must be something radically wrong in the official reports issued monthly of the water companies' expert chemists, and the report also of the official analyst to the Local Government Board, if we are to accept the results of an analytical investigation of the London water-supply recently undertaken by the County Council's chemists, together with the reports by Dr. DUPRÉ, Dr. KLEIN, and Dr. STEVENSON, drawn up under the auspices of the council. So much so does this at first sight appear that a fresh and conclusive argument would seem to be gained that London should go further afield for its water-supply and entirely abandon its present sources. If, for example, it be shown that the present supply, as delivered to the consumer, contains matters indicative of sewage pollution—nay, an inherent part of sewage itself—then it is obvious that for drinking purposes the water is open to the strongest condemnation. A new light appears to be thrown upon the quality of the London water supply by the apparently simple procedure of examining minutely the suspended matter contained in it and its nature and character. Judging from the official reports issued every month we have been led to infer all along that there was no such thing as suspended matter in London water, since under the column headed "Appearance" we read the word "clear" for the whole of the samples, and under the column of "Matters in Suspension" the word "none" without any exception. To do justice to the County Council's chemists they have found that these records were not faithful to the requirements of exact science, since they find that suspended matters are present in greater or less quantities, and that the matters held in suspension are by no means to be described in the words used on a special occasion by the companies' chemists as "mineral matter." We consider this a very serious defect in the official report, and we have very strong reasons for thinking so. The suspended matter, for example, which has officially been recorded as "none" amounts, according to the County Council's chemists, to an average of 0·0022 chemically dry grains per gallon. This calculated as "wet mud" is equivalent to a quantity of avoidable suspended matters of 67·5 tons per annum, while if the estimation is made on the basis of the Southwark Company's supply at times it would amount to an annual average of 1145 tons. Assuming for a moment that this suspended matter is quite innocuous, it indicates with certainty that there are gaps in the methods of filtration at the waterworks the seriousness of which exposes the community to risks of a very serious kind. If we look further into this report, recently issued by the County Council, we shall find these risks to be of a really substantially alarming character. To start with, the suspended matters just alluded to were found to contain a percentage of nitrogen calculated on the volatile organic matter which makes it very evident that the suspended matters present in the companies' filtered supplies approximate more or less nearly in character to those in the unfiltered river water at the companies' intakes. Further, the microscopical examination of the filtered supplies "rendered it difficult for the most skilled observer to conclude from the examination whether the specimen was drawn from an unfiltered river water or from one of the filtered supplies." Similarly, we read in the report of Dr. DUPRÉ that the presence of various matters and living organisms which he found in filtered supplies proved incontestably that although filtration is on the whole well done as far as the coarser and more readily separated particles suspended in the river water are concerned, it is not sufficiently perfect to exclude all living organisms of either vegetable or animal character. There is thus, he adds, no guarantee that none of the pathogenic organisms, some of which undoubtedly find their way into the rivers above the intakes of the waterworks on the Thames and Lea, will find their way into the filtered water as supplied to the consumers.

We pass on to the report of Dr. KLEIN, and this, perhaps, is the most interesting contribution. To start with, he finds an important discrepancy in the bacteriological methods of the companies' chemists, who have underestimated the number of microbes because of the imperfec method of counting the colonies at the temperature of the laboratory after forty-eight hours, when they have barely commenced to grow. In consequence of this Dr. KLEIN finds in certain samples a superabundance of microbes. Nor is this all. He has demonstrated the copious presence of the bacillus coli in the water which, as he points out, most probably means only one thing—that is, the imperfect filtration of sewage polluted water. In view of the report of the Royal Commission of 1893, that no bacillus coli could be detected in the filtering material as well as the filtrate, Dr. KLEIN thinks, and we agree with him, that this is probably true when the companies' filters are acting well and satisfactorily; but when a filter is stopped for repairing or cleansing purposes, and its essential filtering slime disturbed, the filtering may become deficient and untrustworthy. During a whole year it is probable that such a disturbance does take place, and it would be interesting to trace whether the objectionable samples above cited were taken on a date coincident or nearly coincident with the time that some structural alteration was being made in the filter beds. Further, Dr. KLEIN has established the presence of living animalculæ in London waters which are identical with those present in unfiltered Thames and Lea water. In other words, he has detected organisms which it is certain have escaped the filters. In connexion with his investigation he points out the unreliability of judging the quality of the water by the number of microbes present. For example, in the East London and Lambeth waters on one occasion the number of microbes per cubic centimetre was comparatively small—viz., 288 and 208 respectively—and yet both contained an abundance of bacillus coli. The Lambeth water contained at one time as small a number as 116 microbes per 1 c.c., and yet contained the normal inhabitant of fæcal matters. As he points out, it is important to bear these facts in mind when statements are

met with that the process of filtering is at times so excellent that over 90 per cent. of the microbes are removed for if in the water before filtration a considerable number of obnoxious bacteria should happen to be present the removal of over 90 per cent. of the total number may reduce but not affect the presence of some of the objectionable microbes. In the report of Dr. STEVENSON he regards the suspended matters as innocuous substances, although their presence again indicates that the filtration of the waters was not so thorough as is desirable.

It seems to us that the substance of this valuable and evidently painstaking report represents a very serious allegation on the quality of the London water-supply. And the wonder to us is that we have not had substantial evidence of this kind to hand before. If we are correct the cue, so to speak, as to the probable existence of impurity has had its origin in the improved method introduced by Mr. DIBDIN of accurately examining not only the quantity but the quality of the suspended matter present in London drinking water. At any rate, this method appears to have established that the work of the filters upon which all confidence is reposed is not efficient, and this has been remarkably borne out by bacteriological inquiry. If that be true we can have no hesitation in saying, especially in view of the increasing risks of pollution of the present supply, that the sooner London goes further afield for a supply that is free from suspicion of sewage contamination the better. The Royal Commission of 1893 reported, however, that the evidence of experience showed that not a single case of illness could be traced to the London water-supply. On the other hand, Mr. SHIRLEY MURPHY, the medical officer of the Council, has recently called attention to an increase of enteric fever being in all probability caused by the quality of the water supplied to certain parts of the metropolis. We consider that the revelations of this report are sufficiently startling and serious to demand an immediate Parliamentary inquiry.

THE report (which is published in another column of our present issue) of the results of a collective investigation into the use of antitoxin in diphtheria compiled by a committee of the American Pædiatric Society deserves careful consideration. When all allowance is made for the numerous fallacies which must inevitably creep into an inquiry of this kind, there still remains no question of the highly encouraging results obtained. The committee have done their work well, and have evidently exercised as much discrimination as possible in sifting the reports sent in to them from no fewer than 615 practitioners; and the single fact that of this number "600 have pronounced themselves as strongly in favour of the serum treatment, the great majority being enthusiastic in its advocacy," is worth a vast deal. We doubt if a similar consensus of opinion regarding the efficacy of a single mode of treatment has ever been obtained; certainly in the parallel instance of the tuberculin method such an agreement did not occur, even when the newly-discovered agent was most in favour. Hence, on this ground alone we must regard the introduction of the serum treatment of diphtheria, based as it is upon sound scientific deductions, as a real and permanent gain to the resources of therapeutics. The proof of its efficacy does not, however, rest upon mere opinions and impressions; it is capable of fairly precise statistical support, and it is this which renders the American Pædiatric Society's report so valuable. We frankly admit that an inquiry of this kind is hampered by the fact that there is no very certain means of arriving at a real basis of comparison. From hospital practice, it is true, we have the means of obtaining some idea of diphtheria fatality preceding the introduction of antitoxin; but naturally in hospital the proportion of severe cases which are admitted is greater than that obtaining in the disease generally. Then, again, too great reliance cannot be placed upon notification returns since the clinical diagnosis of diphtheria is in the milder cases by no means a simple matter. On the other hand—as pointed out in this report—there are many cases of the milder types which are not submitted to the antitoxin treatment, and a certain number in which the remedy is not had recourse to until late in the disease, so that the actual fatality amongst the cases reported to have been treated by this method is probably much in excess of that which would be obtained were *all* cases included, and the treatment carried out in a manner to secure its best results.

Besides the reports from practitioners sent in to the committee, the statistics include those of the Health Departments of New York and Chicago, where inspectors are trained to administer the serum as soon as the cases are notified. From all these sources—after the rejection of doubtful cases—there were derived particulars of 5794 cases with 713 deaths, a mortality of 12·3 per cent. By excluding cases moribund at the time of injection this rate is reduced to the low figure of 8·8 per cent. The theory of the *modus operandi* of antitoxin and the results of the treatment obtained elsewhere are confirmed by the fact that in cases where the injection was practised within three days of onset the mortality was 7·3 per cent. for all cases, or 4·8 per cent. if those which were moribund at the time were excluded. After three days the remedy diminishes in its power, presumably because the toxin of diphtheria has by that time been generated in such abundance as to be beyond neutralisation; yet occasionally improvement of a striking character was observed even when the injection of serum had been made as late as the fifth or sixth day. The greatest mortality was in subjects below two years of age, being 19·2 per cent. if those dying within twenty-four hours be excluded; but after this age the mortality steadily declined up to adult life, there being but 13 deaths in 359 cases above the age of fifteen years, or, excluding 4 moribund cases, a mortality of only 2·5 per cent. Some interesting facts are related in respect to the occurrence of paralysis, which supervened in 328 cases, or 9·7 per cent. We have been impressed with the rather high proportion of fatalities from cardiac paralysis, of which some instances are cited; and the explanation advanced that these are cases which, had not antitoxin been employed, would have succumbed earlier from implication of the larynx or general toxæmia is suggestive and probably correct. It is unfortunate that the data upon the vexed question of nephritis are inadequate. This is one of the subjects upon which it is difficult to obtain full information in a collective investigation, and it is so evident that albuminuria does not necessarily mean nephritis that the statistics cannot be relied upon as presenting an accurate statement of

the prevalence of this complication; but there were 15 fatal cases marked by all the leading features of acute renal inflammation. The complication of broncho-pneumonia was very infrequent, occurring only in 5·9 per cent., a reduction which must be attributed to the very favourable course taken by the laryngeal cases submitted to this treatment. Indeed, all must admit that perhaps the soundest proof of the efficacy of antitoxin is that which is afforded by the history of diphtheria when the larynx is involved. In this series such cases amounted to as many as 1256, or 37·5 per cent. No operation was done in 691 of these, it being refused in 48 fatal cases, and death ensuing from other than laryngeal disease in 80. Excluding these it is surely remarkable that there should be as many as 563 cases in which the patients recovered from laryngeal diphtheria without operative interference being resorted to. How different is this from the experience which gave rise to axioms prevalent since the days of TROUSSEAU whereby the earliest signs of laryngeal obstruction were deemed to indicate the need for surgical intervention. Then, again, as in other reports, there is a larger proportion of recoveries after tracheotomy or intubation than we have hitherto been wont to see.

In only 3 cases out of this large number was it possible to accuse the injections of producing unfavourable symptoms; and considering the natural course of the disease, with its occasional unexpected change for the worse, it is not too much to attribute such events to coincidence. In one of these cases—where death ensued from convulsions ten minutes after the injection—the cause is unexplained. We involuntarily recall analogous instances of fatal convulsive seizures on the performance of a paracentesis even before the fluid flows away, of which literature gives some examples. It is a little remarkable that no mention is made of the articular swellings and cutaneous eruptions which have been found elsewhere to occasionally ensue upon this treatment. The summary which the committee give is admirable, for it meets all the points which tell both for and against the use of a remedy which has not been introduced without cavil in some quarters. For our own part the report strikes us as being most judicial and impartial; and we commend its careful perusal to those who are still in doubt as to the utility of the treatment—if, indeed, there be any in this position. We would further direct especial attention to the recommendations of the committee respecting dosage and the quality of the antitoxin used, as well as the great importance of avoiding all delay in its administration. At the same time the committee advise its administration, "however late the first observation is made," unless the case is progressing favourably. This report should go far to strengthen confidence in the use of antitoxin; whilst the dissemination of more accurate knowledge as to its administration may, it is confidently to be hoped, result in an even more favourable reduction of the mortality from diphtheria than has so far been obtained.

IMMEDIATELY after the Poor-law Superannuation Act had received the Royal Assent we felt it our duty to point out[1] for the information of our readers that every medical man holding office at the time the Act came into force (Sept. 30th last) could, if he chose, exclude himself from its operation by writing to his board within three months from that date. The Act does not apply to Scotland or Ireland, but it applies equally to all medical men in England and Wales holding office under guardians of the poor and managers of district schools and sick asylums; it also applies to the medical superintendents of fever hospitals and imbecile asylums and their assistants, who hold office under the managers of the metropolitan asylums' district. The remarks, therefore, which we propose to make will apply equally to all of these.

Lately, we have received from medical officers in the Poor-law service several inquiries which raise many points of interest and importance, and in the belief that similar cases are not infrequent we select the following instance as an example. A correspondent asks—1. Can a medical officer who has held his appointment under the guardians for over a quarter of a century, and who is now in ill-health, claim as a *certainty* the right to a pension if his resignation is tendered next week? 2. Does the Act which has just come into force require that a percentage *must* be contributed ere the Poor-law officer is entitled to its benefits? 3. Or, if the medical officer should resign next week, will he come under the old Acts and so be entirely dependent upon the goodwill of the guardians for a pension?

1. The answer to the first question is that a medical officer in such circumstances comes under the new Act and can claim a pension as a certainty in the event of his resigning at any time after Sept. 29th, provided either (*a*) that he has become incapable of discharging the duties of his office by reason of permanent infirmity of mind or body; or (*b*) that he has reached the age of sixty-five years (Section 2); and also provided that he has not already signified his intention *not* to avail himself of the provisions of the Act (Section 15). Whichever of these two reasons he assigns as a cause for his retirement he must, of course, be prepared to show proof thereof. A certificate from a Poor-law inspector was in former times deemed necessary (33 and 34 Vict., cap. 94, Section 2). Much depends on the age of the medical officer. If he is under sixty years he must satisfy the guardians or the managers that he is quite incapable of discharging the duties of his office; if over sixty and under sixty-five years he has only to prove that he is "infirm" by reason of age. If he has arrived at the age of sixty-five years he is entitled at once to the superannuation allowance according to the scale laid down in the new Act, whether incapable of discharging his duties or not. Our correspondent tells us that he has spent more than twenty-five years in the service, so he is qualified on this head, no one being eligible for a pension unless he has spent at least ten years in the service; no right to a superannuation allowance accrues under that time. It does not matter whether this period has been spent under the same managers, in the same parish, or in several different ones; it does not matter whether the service has been continuous or not (Section 4); and, finally, it does not signify whether the whole or only part of his time has been devoted to his duties. If a medical officer has completed forty years' service he is eligible for a pension five years earlier—namely, at the age of

[1] THE LANCET, Aug. 22nd, 1896.

sixty years (Section 2). The amount of pension to which he is entitled for the remainder of his life is based on the average of his salary *and emoluments* during the five years preceding the date when he ceases to hold office (Section 3). He is entitled to one-sixtieth of this average for each completed year of service, and the guardians in computing a superannuation allowance *may* add a number of years, not exceeding ten, to those actually served in consideration of peculiar professional qualifications or other special circumstances (Section 5). The maximum allowance is two-thirds of the average of the preceding five years. All these things are provided in the new law.

2. Our correspondent appears to be mistaken in thinking that a contribution is to be made by a medical officer. It is a compulsory deduction from his salary and emoluments which will be made each quarter after Sept. 29th, 1896, unless the medical officer, having been in office at that time, writes during this current quarter to the guardians or managers excluding himself from the new Act. However, it is not necessary to wait for any such deduction to have been made before the medical officer is entitled to benefit under the Act. He can, being otherwise qualified, receive its benefits at once, but if his resignation does not take effect for three months a deduction will be made at the Christmas quarter.

3. If the medical officer resigns next week he will come under the *new* Act unless he writes, or has already written, to the guardians expressing a wish not to do so, but to come under the old Acts. During the current three months ended Dec. 30th every medical officer has the right to choose whether he will come under the new Act or not. If he elect not to come under the new Act then it is expressly provided that the old Acts [2] giving permissive powers to the guardians will still apply to him (Section 15). On the other hand, unless he does so write to the guardians a medical officer who was in office on Sept. 29th has no option but to submit to the quarterly deductions of his salary under the provisions of the new statute.

The amount of such deductions in the case of medical officers already in the Poor-law varies with the length of their past service. In the case of a medical officer of fifteen years' service and upwards 3 per cent. of his salary and emoluments is deducted; if of less than fifteen and more than five 2½ per cent.; if of less than five, and in the case of all those who may be hereafter appointed, 2 per cent. is deducted. Thus, supposing our correspondent's salary to be £75 per annum and his other emoluments to be valued at £25 per annum, 15*s.* would be deducted from his Christmas quarter's cheque. On the other hand, if he wish to be excluded from the new Act then the old Acts certainly apply to him and no deductions will be made.

We would again urge those medical officers who are now in office, and who therefore possess this option, carefully to consider whether they prefer to ensure a *certain* superannuation hereafter by submitting to the small deduction each year during the remainder of their tenure of office or to trust to the goodwill of the Board that may happen to be in office at the time of their retirement. The Act of 1864 and its amending Acts *permit* guardians to award to a medical officer who retires through old age or permanent infirmity of body or mind a superannuation allowance of one-sixtieth of the average of the three previous years' salary and emoluments for every year's past service, with optional additions as in the new law, not exceeding a total of forty-sixtieths. Experience has shown that guardians have mostly availed themselves of this permission to recognise faithful services in the past, and though in the case of other officials the guardians can only do so when the officer has devoted his whole time to the services of the union, nevertheless, in the case of medical officers, Vict. 33 and 34, cap. 94, waives this difficulty. If, then, a medical officer generally finds himself on cordial terms with his successive Boards, and if he has no prospect of retirement on the above grounds in the immediate future, he might do well to exclude himself from the new Act, trusting to the old Acts and thus avoiding the deductions from his salary, though they are not large. If, on the other hand, he looks to retirement from the above causes in the near future, and especially if his relationship with his board is generally somewhat strained, then he would do well to let matters take their course, submit to the small deductions, and so count on a certain superannuation under the new Act when the time comes for his retirement. We have gone into this question in some detail, believing it will be useful to a large section of our readers. It is desirable that every medical officer should consider and decide the matter for himself without delay—i.e., before Dec. 30th next. On the whole we are of opinion that the cases are few where a medical officer would gain much by not availing himself of the provisions of the new law, and in general terms we believe that this latter will tend to make an onerous and generally somewhat underpaid service more attractive to the members of our profession.

[2] The old statutes which apply to such cases are 27 and 28 Vict., c. 42 (1864); 29 and 30 Vict., c. 113 (1866), Sections 1-3; 30 and 31 Vict., c. 106 (1867), Sections 18, 19, and part of 20; 33 Vict., c. 2 (1870), Section 10; 33 and 34 Vict., c. 94 (1870); and 39 and 40 Vict., c. 61 (1876), Section 17.

Annotations.

"Ne quid nimis."

THE HARVEIAN ORATION.

THE office of Harveian orator at the Royal College of Physicians was admirably filled by Dr. J. F. Payne. The large and distinguished audience which listened to his oration on Monday last must have been more than satisfied with his effort. The oration was in every respect most fitting to the occasion and will rank amongst the best of those annual addresses which serve to link the present with the past. His theme was well chosen. Departing in some measure from the traditional custom of directly reviewing and appraising Harvey's own life-work—varied as it has sometimes been by disquisitions upon the application of his discovery to present-day science and practice—Dr. Payne opened up comparatively fresh ground by preferring to dwell more upon the forerunners of Harvey, and especially upon one of the most striking personalities of all, whose teaching influenced medical thought for centuries—namely, Galen. Incidentally, but very appropriately, he prefaced his sketch of this remarkable man by an account of the two most noteworthy physicians who directed the fortunes

of the College previously to Harvey's day—Thomas Linacre, the founder of the College, and John Caius. Thus did he happily turn the thoughts of his hearers to those who are not only foremost in establishing and maintaining one of our cherished institutions, but whose learning and medical knowledge were doubtless responsible for fashioning the thoughts of their great successor, whose fame has overshadowed theirs. With admirable skill, showing a perfect mastery of the conditions then obtaining, the orator sketched the course of mediæval medicine and pointed out how the teachings of Galen had obtained so large a share of influence through the revival of the Greek medical classics, to the study of which both Linacre and Caius were devoted. He showed, too, that the Hippocratic revival, which gave so great an impetus to clinical study and is associated with the name of Sydenham, had together with Harvey's great discovery laid the foundations of modern medicine; but he added that if it had not been for Aristotle and Galen that discovery might never have been made. The main burden of his discussion was to demonstrate the truth of this contention and to show that Galen, in spite of errors unavoidable from the manner and limitations of his observations, is deserving of a niche in the Temple of Fame second only to that of Aristotle, whose physiological theories he in some points correctly traversed. Dr. Payne has done no more than justice to Galen, whose errors have been magnified, but whose methods of work were those of the true scientific investigator who knew of no authority but that of direct personal observation and whose industry was remarkable. Most excellent and needful in these days of somewhat arbitrary science were the passages in the early part of the oration in which the speaker contended that error has its place in progress as well as truth; how often, indeed, the truth is only revealed through error; and few of us can avoid the inference that perchance many of the conclusions which are now believed to be without flaw may, as knowledge widens, prove in time to come to be as faulty and as fanciful as some of the theories of the ancients which to us sound strange and singular. It is only such great central facts as that which Harvey brought to light—although many who preceded him came very near to his discovery—that are and must be immutable and perennial. But physiology abounds in data that are less firmly rooted than this, which, accepted as truths by one generation, may perchance be dismissed to the limbo of error by another. This much is certain, that no labour, however vain, is lost; and just as from the errors of an Aristotle or Galen sprang the truths of a Harvey, so in due time may further insight be gained into the wonderful economy of the animal body at the cost of the sacrifice of cherished convictions through the illuminating genius of another Harvey.

HORSE AMBULANCES.

IN the *Nineteenth Century* for the present month there appears a most interesting article on the subject of Horse Ambulances. The writer gives a history of their origin at the Belle Vue Hospital in New York and of their development in the United States, and also mentions their use in Vienna and Paris. Unfortunately, he takes no note of any in this country, and, apparently assuming that there are none, blames us for having "neglected so long an example set us by far younger cities than our own." For the purpose of correcting the wrong impression thus given it may be well to refer very briefly to what has been done in this direction in some of the more important English towns. Granting at once that we are far behind the Americans in this respect it may be urged in mitigation that our hospitals, unlike theirs, are all charities pure and simple, and very rarely have any surplus funds available for outside purposes. Despite this great disadvantage, however, it will be found that several have been doing good work in this direction for years. The honour of being the first in this country to adopt this system belongs to the Northern Hospital, Liverpool which, thirteen years ago, purchased a horse ambulance and has had one in daily use ever since. During 1895 it was called out on no less than 954 occasions. This is an enormous number when we remember that the hospital has only 155 beds. The horse is hired, but the driver is permanently employed by the hospital. The Royal Southern and the Bootle Hospital possess horse ambulances, which are worked in much the same manner as the original one. In Birmingham the only one is at the General Hospital, and this appears to be used chiefly to take patients to the semi-convalescent home and not to be always in readiness for emergencies. There is a similar arrangement at the North Staffordshire Infirmary. In Sheffield and Bradford there is an excellent service conducted by the fire brigades, but having no connexion with the hospitals the ambulances do not carry a surgeon. Possibly the best equipped in England is the Leeds Infirmary, which in 1887 was presented with two horse-ambulances—one carrying two and the other four stretchers—by the working-men of the town. Each is, of course, provided with the usual splint-locker, bandages, dressings, and medicines, being carried in a bag. The management is equally satisfactory. The ambulances are kept about 100 yards away, at the headquarters of the fire brigade, who supply men and horses; one ring on the electric bell summons the smaller, two the larger. The time elapsing between the receipt of the alarm and the despatch of the van with surgeon is from one to two minutes. The dresser of the week goes during the day and the house surgeon of the week during the night. In the year 1895 490 calls were answered. So prompt are the firemen that there is generally a race between the dresser and the ambulance as to which shall be ready first. It is certainly desirable that all work of this kind should be done from a hospital, as the requisite surgical aid can there be provided at any time to accompany the ambulance. The above does not profess to be a complete list of ambulance-using hospitals. If inquiries were made doubtless many other examples would be discovered and probably will reveal themselves now that the subject has been broached. Enough, however, has probably been said to show that we are not so utterly ignorant or neglectful as the writer referred to seems to think.

THE CORONER'S JURY.

THE often unsatisfactory nature of the verdicts given by coroner's juries and the unwillingness with which the jurors themselves perform their duties is arousing a large amount of attention. Our own columns constantly record instances of what we may for shortness call mal-praxis at inquests, using the word to signify a useless verdict or unseemly wrangles between witness, jury, and coroner. We are glad to see that the lay press has taken the matter up, for the *Times* of the 13th ult., in a leading article, refers to this subject. The writer recalls Lord Herschell's remarks on the matter in 1876. His lordship then proposed the abolition of the coroner's jury and the appointment of a medical officer to be attached to the coroner's court, "whose duty it would be to make, without loss of time, a report into every death calling for inquiry." The *Times* thinks no one would object to this change, but suggests that in the meantime coroners themselves might do something to raise the character of their tribunals by, for instance, procuring a better class of jurors. As we remarked in a recent issue, no inquest should be held

in a public-house, and every parish should have, at least, one mortuary, and if necessary more, with a proper building attached in which the coroner's court could be held. As it is we are rated for sundry silly and useless fads, but most likely no one would object to a rate for the provision of a decent mortuary and coroner's court for every parish. THE LANCET from almost the moment of its inception fought against the degradation of the coroner's court. Much has been done in the way of improvement, but more remains to be done.

MEDICAL JOURNALISM IN CUBA.

WE learn that our Cuban contemporary, *La Revista de Ciencias Medicas*, founded eleven years ago, has now ceased to appear. The final number contains, among other matter, an account of two successful cases of vaginal hysterectomy and one of abdominal hysterectomy performed by Dr. Enrique Nunez, one in 1895 and the others during the present year. As medical journalists, we cannot but admire the tenacity of purpose which has enabled our colleagues in Cuba to carry on their work as long as they have done amid the scenes of anarchy and bloodshed which afflict that unhappy island.

ORIGIN OF FAT IN THE BODY.

THE subject of the origin of fat has once more been taken up by the experimentalist, and M. Kaufmann contributes a paper giving the results of his researches to the *Archives de Physiologie* for October. Many years have now elapsed since the well-known French chemists, MM. Dumas and Boussingault, as the outcome of their researches, maintained that animals, whether herbivorous or carnivorous, were supplied with all their proximate principles by the vegetable kingdom—the former class directly, the latter indirectly through the herbivora on which they preyed. Animals, according to these observers, did not make fat, sugar, or albumin, but derived each and all of these substances from plants. This position was contested by Liebig, who contended in regard to fat that this was not altogether obtained by animals from the fat of their food. On the contrary, they were able to make it with either sugar or starch. He pointed out, as Huber had done before him, that bees fed on sugar or honey alone were capable of forming fat in the form of wax, but Huber had omitted to weigh the bees before dieting them, and Dumas and Boussingault ingeniously argued that the wax formed on a diet of pure farina or sugar was originally stored up in the bodies of the bees and utilised by them in the construction of their combs. Liebig therefore still supported the view of Huber and held that the greater part of the fat which is deposited in the animal body and that which is found in the milk of nursing mothers is formed in the body and almost exclusively from the hydrocarbonaceous compounds of the food. The albuminoids, he thought, played quite a subordinate *rôle* from this point of view, as, indeed, seemed probable when it was considered that the food of the herbivora which store up much fat is chiefly composed of carbohydrates, whilst the bodies of the carnivora, whose food is chiefly albuminous, contain little or no fat. Moreover, he experimented on a goose, which from a lean condition was fattened to such an extent that three pounds of fat were obtained from it, although the maize with which it had been fed did not contain anything like that quantity of fat. Dumas and Boussingault returned to the charge by making a careful analysis of the food given to a cow for a year and determining the quantity of fat which the animal yielded in the milk. They found the fat introduced with the food to be considerably in excess of that eliminated by the milk, but Liebig scored a point by observing that nearly all the fat ingested with the food escaped undigested from the bowels in the fæces. Subsequent experiments, especially those of Lawes and Gilbert, on the herbivora clearly demonstrated that one, at least, of the sources of fat is the farinaceous material ingested. In the meanwhile various circumstances had led some investigators to adopt the view that the albuminoid or nitrogenous constituents of the food might play a part in the generation of fat. Thus it was found that animals fattened best when their food, if chiefly farinaceous, was mingled with some albuminous compounds: whilst Pettenkofer and Voit demonstrated that in a dog freely supplied with flesh the whole of the nitrogen thus introduced into the economy was recoverable from the urine and fæces, whilst the carbon remained in the economy and hence, probably, formed or aided in the formation of fat. The observations of Kemmerich on nursing bitches, of Subbotin on feeding dogs with palm oil and meat, of Hofmann on larvæ fed on defibrinated blood containing a known quantity of fat, all pointed in the same direction and led Voit to maintain, first, that the fat of animals is exclusively formed from the proteid aliments, and, secondly, that hydrocarbonaceous compounds are not converted into fat in the animal organism, but simply preserve the fat formed from the proteids from oxidation. The most recent researches on this point, however, are not quite in accordance with Voit's views. M. Kaufmann arrives at the following conclusions. The proteids, in common with the ternary compounds of the food, contribute to the formation of fat, but, contrary to Voit's statement, they are not the exclusive origin of it. When during digestion a large quantity of proteids is absorbed it rapidly undergoes disintegration and forms fat. This fat has, speaking generally, three applications. One part oxidises and passing through the phase of glycose supplies the requisite energy for the general physiological work of the organism; another part undergoes incomplete oxidation and is transformed into carbohydrate which is stored up in reserve as glycogen; whilst the third part remains intact and is deposited as fat. The proportion of fat which is fixed during the digestion period varies with the abundance of the repast and the richness of the organism in glycogen. If the animal is poor in glycogen it may happen that the whole of the non-oxidised fat may be converted into glycogen. Calorimetric investigations demonstrate that if the anaerobic decomposition of albumin really occurs the process is not attended with any disengagement of heat.

THE PLAGUE IN INDIA.

SINCE writing last week to the effect that there did not seem to be much doubt as to the nature of the disease at Bombay and that it had the distinctive features of bubonic plague intelligence has been received that M. Haffkine, who had been sent to Bombay to report upon the nature of the outbreak, had pronounced the disease to be plague. A recent number of the *Times of India* gives a long account of the outbreak in question derived from inquiries among medical practitioners in Bombay. We gather that the disease was in the first instance confined to the Mandvi district, but that some cases had subsequently appeared in other districts of the city. The disorder in some of the cases seems to have been quite typical in its clinical and bacteriological features. The malady is of a virulent kind, attended by high fever—104° to 105° F.—rapid pulse and respiration, with glandular enlargement of the groin, axilla, or neck, and attended with great prostration. These symptoms are accompanied or followed by delirium and a drowsy unconsciousness, and the attack is commonly fatal in two or three days. Bacilli resembling those found by Professor Kipasato at Hong Kong have been discovered in the blood and other fluids of those attacked. As was the case at Hong Kong, it has been noticed that the

cats of the affected locality died in large numbers at an early date of the outbreak. Bombay, like all Eastern towns, is an over-crowded city, especially in the poorer districts that have been attacked. The houses are greatly over-crowded and badly ventilated, and the sewerage, drainage, and surface cleanliness present great difficulties. It is in attention to the sanitary condition of the affected localities in these particulars—to the flushing of the drains, the removal of filth, and the diminution of over-crowding—that reliance should mainly be placed in coping with the malady. The disease does not appear to have been on a large scale, nor, happily, has it shown signs of rapidly spreading.

THE PARASITE OF WHOOPING-COUGH.

M. KURLOFF (*Vratch*, No. 3, 1896) remarks that Henke and Deichler have for the last ten years maintained that the cause of whooping-cough is a very active organism provided with cilia. He challenges this statement, and believes that the micro-organism of whooping-cough is not to be sought for amongst bacteria, but amongst the protozoa. He has never failed to find active amœbæ with finely granular protoplasm and with spherical spores characterised by concentric lamination. He believes he has been able to follow the development of the spores into amœbæ. The facts he describes may all be observed in the fresh sputa of the patients, even without the employment of an Abbé's condenser.

ANTITOXIN (?) BY ELECTROLYSIS.

FOR some time past the question of the production of antitoxin by electrolysis has attracted the attention of physiologists, and continuous currents and currents of high frequency have been used to obtain antitoxin. It was evident that Smirnow had been able to alter toxins by the passage of a continuous current of electricity through them so that they become less toxic when injected into animals and also exerted a slight protective effect against a dose of diphtheria culture that proved fatal in from twenty-four to thirty hours. From the manipulation through which this substance was put it was at first thought that some change might take place by which oxidation was rendered comparatively easy and it was suggested that peroxide of hydrogen was formed; it was then, however, pointed out that these results could only be obtained in the presence of sodium chloride, one-half per cent. solution. In view of what has already been done in regard to the electrolisation of sea-water it at once becomes evident that electrolisation of such a fluid would in all probability lead to the formation of chlorites and hypochlorites, as Hermite had already demonstrated in his experiments on such a large scale, in which he was able to produce an active oxidising solution which exerted an exceedingly powerful effect, not only upon the products of bacteria, but also upon bacteria themselves and even their spores. M. Marmier, in a contribution to the *Annales de l'Institut Pasteur*, refers to the work that has already been done on this question, and gives a series of experiments made with continuous currents similar to those carried on by Smirnow and Krüger and with currents alternating at high frequency such as were used by D'Arsonville and Charrin. He finds that with venin and with diphtheritic toxins he is able to obtain no attenuating effect with alternating currents of high frequency, but that with continuous currents there is a distinct attenuation of the virus to be noted. He finds, moreover, that continuous or alternating currents of low frequency destroy bacterial toxins simply because they have the power of producing hypochlorites and chlorine from the chloride of sodium dissolved in the solution of toxins, this substance in a nascent condition exerting a considerable effect upon the toxins. He indicates, in fact, that Hermite's process is the one that is brought into play in the attenuation of the toxins that are in the fluid. This disposes of the formation of antitoxin by electricity as at present recommended, for the fluid after electrolysis is perfectly different as regards its antiseptic power from the fluid before electrolysis is commenced. M. Marmier has disproved a pretty theory, but he has cleared the ground for future workers.

HOSPITAL REFORM.

WE have received a circular explanatory of the aims and desires of the Hospital Reform Association, and with the desire of the association to reform abuses in hospitals we are thoroughly in accord, but we are doubtful as to the success which they hope to attain. The association "hopes to effect a considerable amelioration of the present condition by the following methods:—

"1. By calling public attention to the abuses that exist by (*a*) circulating papers and pamphlets, (*b*) by ventilating the subject in the columns of the press.

"2. By making representations both to the managers of hospitals and the members of the hospital staff.

"3. By appealing to the Committee of the Hospital Sunday Fund to make proper inquiries into the administration of the out patient departments.

These methods are admirable in theory, but will they work? As to the obvious question, "Has THE LANCET any alternatives to suggest?" we can only say "Try what you propose." A very searching inquisitorial system of examining would-be patients is the main way, so far as we know, of staying hospital abuse. There is another side to the question. It is always the most deserving of the poor who suffer in silence, who would rather die than blazon their misery to a board or committee, and perhaps it is better that fifty undeserving persons should be relieved than that one deserving person should be passed over. The subject teems with difficulties, and we are glad to see that an association has been formed to try to cope with them; also we hope it will lose no time in setting to work.

CHRISTIAN BURIAL AND CREMATION: A NOTE AND A QUERY.

A CORRESPONDENT writes above the signature Easton Bavent, M.D.:—"No one who attended the funeral of the Archbishop at Canterbury could fail to be impressed by the beauty of the ceremony and the imposing character of the whole scene. Funeral services in the Anglican Church from a spectacular point of view are not equal to those of the Roman or of the Greek Church, but there is a quiet simplicity about them which in the eyes of most English people is more appropriate than the gorgeousness of the foreign ceremonies. It was a little curious to read some newspaper accounts in which it was either inferred or stated directly that the remains of Thomas à Becket still find a resting-place in the cathedral. A very slight study of Stanley's well-known Memorials of Canterbury would have put them right in that matter. There is, it seems, a wish that the late Archbishop should be buried near the place on which the shrine of Becket formerly stood and it is doubtful whether it is yet generally realised what a battle may have to be fought on this question. Under the provisions of the Bill against intramural burial St. Paul's Cathedral, London, and St. Peter's Abbey, Westminster, were especially exempt, but no such exemption exists in the case of Canterbury Cathedral. It would, therefore, be necessary to pass an Act of Parliament to legalise the burial of the late Archbishop in that part of the cathedral in which it is wished to place his remains. It will, of course, be very unfortunate if any ill-feeling arises out of this proposal. It seems most fitting that the great Archbishop who did so much to consolidate the unity of the Anglican Church should rest in his Metropolitan

Cathedral and under conditions which are considered most fitting by those who attach most importance to the idea of the continuity of the Anglican Church. At the same time it must be admitted by all sanitarians that intramural burial is in itself not a good thing. No one can read Simon's description of the state of the city churches without being absolutely horrified at the state of things which existed in his time. It is an unfortunate fact that many otherwise reasonable people still have a great objection to cremation. Only a few weeks ago, when a distinguished surgeon was cremated at Woking, the intimation of the fact as given in the daily papers was almost apologetic in tone. It was stated that Christian rites of burial would be given to the ashes, and the statement was conveyed in such a way as almost to lead one to suppose that Christian burial ought not to be given. A few days ago, it may be remembered, the old and disused churchyard of a northern suburb received with Christian rites the ashes of an artist-author whose work has delighted the English-speaking races for many years. In this case if the body had not been cremated the churchyard at Hampstead would not have been available. It is to be hoped that English Churchmen generally will give up the prejudice which undoubtedly exists among many of them against the practice of cremation. Of course, when the Roman mission in England dominated the Anglican Church, when relics of saints were held in great reverence, the practice and even the idea of burning them appeared infamous. It may be added from a worldly point of view it would have been very 'bad business,' for the relics of saints were a valuable asset to all ecclesiastical establishments—so much so that 'the religious' were not above stealing relics of other churches; part of the body of Beckett was stolen from Canterbury, and the remains of St. Edmund, the great East Anglian saint, are now in a cathedral in France. But although the Roman and the Greek Churches hold the reverencing of relics in great esteem the custom has dropped out in the Anglican Church, and although this be the case the bones remain after cremation, and we have Scriptural authority for a miracle wrought by relics. Whether or not it is the Anglican practice to pray for the dead is another question; prayers for the dead are undoubtedly part of the teaching of the Episcopal Church of Scotland, which is in communion with that of England, but neither Church encourages any undue reverence for human remains. It is undoubtedly the general wish of the English Churchmen that the Primates of England should be buried in the Metropolitan Church. It is no less undoubtedly in accordance with the teachings of modern science that intramural burial is an unwholesome practice. Is it not possible that the sentiments of the ecclesiastically minded should be so modified by the teachings of science that good Churchmen may see that it would be well, if the remains of Archbishops of Canterbury are to be placed in the Cathedral, that they should undergo a preliminary process of cremation?"

"ALBUMINURIA TREATED BY RENI-PUNCTURE."

THE subject of Mr. Reginald Harrison's presidential address to the Medical Society of London was a happy instance of the benefit which may be obtained from the careful consideration of unexpected results. Many times have surgeons cut down on the kidney in a patient with severe lumbar pain, albuminuria, and other renal symptoms, in the expectation of finding a renal calculus or some other gross lesion, and have been disappointed; yet when the wound has healed the symptoms of which the patient has complained have completely disappeared. The explanation that was usually given was that some constricting band had been divided or that the result was due to the effect of the operation on the mind of the patient; but there is much to be said in favour of the view put forward by Mr. Harrison that the result in some cases at least is due to the relief of tension. That increased pressure in the renal veins will lead to albuminuria and to a diminished secretion of urine has long been known. The explanation is less certain, though numerous theories are not wanting; but whatever theory we may adopt to explain the presence of the albumin, or even if we consider none of those advanced to be satisfactory, yet we cannot doubt that the venous congestion does give rise somehow to the albuminuria, and in active hyperæmia of the kidney albuminuria is no less certain. In other parts of the body more accessible than the kidney we can diminish congestion, whether arterial or venous in origin, by local blood-letting, so we have good *à priori* reasons for thinking that it is possible to relieve a congestion of the kidney by punctures or incisions, and if this were done it cannot be doubted that at least in some cases the albumin in the urine would disappear and the amount of urine excreted would increase. So many conditions that used to be considered wholly within the province of the physician have now come under surgical treatment that we can hardly be surprised at a further advance in the same direction, but no one anticipated that the aid of the surgeon would ever be invoked in acute nephritis and other allied pathological conditions. The matter is, of course, not yet one on which a decided opinion can be expressed, for the cases are too few, but the unsatisfactory results of the treatment ordinarily pursued in albuminuria and in suppression of urine from nephritis are amply sufficient to justify a method of procedure which promises so much.

COPPER IN PLANTS.

SCIENTIFIC agriculture is largely based on our knowledge of the selective power of the vegetable cells to appropriate in the proportions demanded by the economy of the particular species the salts and bases present in the soil, but that this selective affinity is unattended by a corresponding power of rejection is seen in the rapidity with which any plant may be killed by a large dose of crude organic fluids, as urine or milk, or solutions of albuminoids, urea or carbohydrates, which they are incapable of assimilating, and which must be "mineralised" by bacterial agency in order to be available as food for plants. The question, however, as to the extent to which metallic salts, as those of copper, mercury, or arsenic, present in minute quantities in the soil, can, though wholly foreign to the organism, be absorbed without injury to the plant itself, perhaps even entering into some sort of combination with the tissues, has, with the widespread application of insecticides to seeds and to growing crops, acquired a practical importance in its possible bearing on the health of man. The experiments of Dr. K. B. Lehmann reported in the *Archiv für Hygiene*, xxvii. Band 1 H., are of considerable interest as regards the presence of copper in the soil and its absorption by the vegetation. His observations were made in and around some disused copper mines worked near the surface on a rocky hillside, where the green and blue discolouration of the stones afforded palpable evidence of the presence of copper in soluble forms. In the soil of the quarry itself he found from 2·71 to 3·94 grammes per kilogramme, in that of a shoot or tip below from 8 to 46 grammes, in a meadow at the foot of the hill 0·3 grammes, and in the cultivated soil of the plateau above 0·2 grammes per kilogramme. The plants growing in each portion of the locality yielded very different proportions of copper, varying not only with that in the soil but with the particular species, and the several structures or tissues differed greatly in their power of absorption or storage of the metal. Thus from those growing in the pits themselves he obtained from 80 to 560 milligrammes per

kilogramme, from those on the "tip" from 8 to 46 milligrammes, from plants and shrubs in the meadow from 2 to 15 milligrammes, and on the hilltop from 3 to 23 milligrammes per kilogramme. The leaves of a cherry tree on the very edge of the quarry yielded only 8 milligrammes, while its bark contained no less than 112 milligrammes. The plateau was occupied by a small farm where the potatoes gave but 0·7 milligrammes per kilogramme, corn from 5 to 14, beans from 12 to 20, and cucumbers as much as 30 milligrammes per kilogramme, in the parts respectively used for the food of man. Dr. Lehmann took away with him a two-year-old hen and three eggs; the muscles of the fowl were found to contain copper in the proportions of 2·4 milligrammes and the liver 3·12, while in the feathers it reached 10 milligrammes per kilogramme. The parallelism between these and the bark of trees, alike inert and sclerosed tissues, is noteworthy. Copper was present also in the eggs—1·83 milligrammes in the shell, 8·23 milligrammes in the white, and 1·4 milligrammes in the yelk per kilogramme, while in others bought in Würzburg it was wholly absent or there were but doubtful traces in the yelk.

THE HOURS OF WORKING GIRLS.

LAUNDRESSES—we do not refer to the ancient ladies of the Temple, but washerwomen—have long been, and with good reason, the best abused class of the community. When expostulated with concerning the ruin which they and their minions work upon our shirts, collars, &c., they invariably reply that it is not their fault, that they cannot get "hands," that those they do procure, drink, demand their money in advance, want a whole holiday on Saturday and a day off on Monday, and so on. We daresay there is a great deal of truth in this. It is only clerks, journalists, printers, Government officials, and the more or less upper classes who still retain the ridiculous idea that if a man accepts a post he should do the work thereof. If, however, the proprietors of laundries are all like a person recently sued in the Lambeth county court there is some excuse for their underlings. This person had a clerk named Nora Higgs, and she was summarily dismissed because of an alleged deficiency in the accounts. Thereupon she sued her employer for £2. It came out in evidence that she had to be in the office fourteen hours a day for the magnificent sum of 14*s.* a week. Judge Emden of the Lambeth county court characterised this as most inhuman and gave judgment for the full amount claimed. If hands are treated like this it is no wonder that work is scamped.

ANNUAL REPORT OF THE GOVERNMENT ANALYST OF TRINIDAD.

WE have received the annual report of the Government Analyst and Professor of Chemistry, Trinidad, for the year 1895, which contains some interesting facts from a medico-legal and public health point of view. In the analysis of twenty samples in cases of suspected poisoning the following substances were found: powdered glass, carbolic acid, opium, oil of mustard, daturine, sugar of lead, sulphuric acid, and arsenic. Powdered glass is rather a favourite substance, and on account of its peculiar and necessarily slow action it is a dangerous substance when carefully prepared, although in many cases it is not finely enough powdered to avoid detection. The case of poisoning from oil of mustard is specially interesting from its rarity. It was the ordinary fixed oil that was used and seven-eighths of an ounce was found in the stomach of the deceased. The local action on the stomach was very marked, the inner coat being much wrinkled and covered all over with bright pink spots on a bleached, nearly white background. It was stated that the oil, mixed with opium, was taken as a medicine, but no opium was found either in the stomach or in the unconsumed portion of the oil. The fact that arsenic can be purchased too easily is emphasised. In one case of poisoning about fifteen grains were administered. Of 103 samples of milk tested forty-eight were found to be adulterated. This is an enormous percentage, and it is to be hoped that the authorities will see their way to check such an evil practice. The lamp oils now imported are practically safe, and with care there should in future be very few explosions, though, as is pointed out, the fault does not always lie altogether with the oil, but often depends on the use of inferior lamps; and at the end of the report some useful suggestions for the management of lamps are given.

THE GUILD OF ST. LUKE.

THE thirty-second anniversary festival of the Guild of St. Luke was held on Wednesday night at St. Paul's Cathedral and was numerously attended by the medical profession of the metropolis. Canon Browne, the Bishop of Stepney, who preached the sermon in place of the sadly lamented Archbishop of Canterbury, spoke of the risk that existed that the medical man, so intimately concerned with physical affairs, should take a too materialistic view of the problems of life. In this connexion he considered the the Guild of St. Luke to be doing excellent and valuable service by helping to bring about harmony between science and religion. The preacher also referred to the fact that whenever the Church required a medical man to send out as a missionary she always turned to the Guild to supply her. At the close of the service a collection was made in aid of the medical missionary fund of the Guild.

LUMBAR PUNCTURE OF THE SUB-ARACHNOID SPACE.

PUNCTURE of the sub-arachnoid space has frequently been adopted in the treatment of tuberculous meningitis with the object of relieving pressure, the operation being encouraged by the fact that tuberculous deposits not unfrequently obsolesce, and the patients frequently recover, as shown by post-mortem statistics of our general hospitals. The sub-arachnoid space is usually punctured in the lumbar region of the earliest cases in which this plan was adopted, being recorded in our columns by Dr. W. E. Wynter in 1890. In the *Boston Medical and Surgical Journal*, vol. cxxxv., Nos. 6 and 7 (1896), a paper is published by Dr. A. K. Wentworth on "Some Experimental Work on Lumbar Puncture of the Sub-arachnoid Space," describing twenty-nine cases so treated, the object of the paper being mainly to record the results of the examination of the fluid evacuated to ascertain whether any diagnostic help can thus be elicited. He summarises his conclusions thus: 1. The normal cerebro-spinal fluid contains neither cells nor fibrin and is perfectly clear. 2. In cases of meningitis the cerebro-spinal fluid is invariably cloudy when withdrawn. The degree of cloudiness is to some extent proportionate to the amount and character of the exudation in the meninges. 3. The cloudiness is caused by cells. The character of the cells differs with the variety of meningitis. After withdrawal more or less fibrin is formed in the fluid. The presence of these cells and fibrin is pathognomonic of inflammation in the meninges. 4. The cloudiness is oftentimes so slight that close observation is necessary to detect it. 5. The operation is not difficult to perform on infants and children. It is not dangerous if strict cleanliness is observed. 6. The differential diagnosis between the various kinds of meningitis can be made by microscopic examination of the sediment, by cultures taken from the fluid, and by inoculation experiments. 7. Inoculation experiments afford the surest

means of determining tuberculous meningitis. It is of value to distinguish between the varieties of meningitis in order to determine if tuberculous meningitis is recovered from. 8. In the normal fluid a faint trace of albumin is usually present, about one-fiftieth of one per cent., or less, by quantitative analysis. In meningitis the amount of albumin is increased and has varied from one-thirtieth to one-tenth of one per cent. 9. In one case a diagnosis of general infection with the staphylococcus pyogenes aureus was made from cultures taken from the cerebro-spinal fluid.

STREET NOISES.

THE London County Council have resolved that the Local Government and Taxation Committee should further consider and report with a view to the mitigation or suppression of such street noises as constitute a public nuisance. This is good news. As we have said upon many previous occasions the necessary noises of London are bad enough and it is time that the wholly unnecessary ones should be suppressed. We need not specify them again, and perhaps when the noise question has been settled the Council will take in hand the matter of bone and offal carts going about the streets all day long.

PROPHECIES OF BACILLI.

A CORRESPONDENT sends us the following extract from the "Life of Aly Pasha," who was Governor of Janina about the beginning of the century :—

"Aly Pasha 'could not help laughing when the French consul [Mr. Pouqueville] informed him that one of the professors at the College of Janina asserted that the lake [the subject of the conversation] ran underground, and that it formed the Vistriza [probably a river]. These people,' replied he, 'never see things like others. Yet he has been here for some time, but, like his brethren, he prefers adhering to old traditions rather than give himself the trouble of investigating facts. I know some (looking at his Lieutenant-Generals) who have a great talent for this ingenious art of story-making; what is your opinion, wise one?' [viz., the Lieutenant-General] The Lieutenant-General, quite disconcerted, could not answer a word. 'That man,' continued Aly, 'is one of those who see in the dark. Would you believe it? He pretends that the plague is composed of a vast number of minute animalculæ, which would be visible through a magnifying-glass, if one could be procured of sufficient power.'"

Bacteriology as a more or less exact science is yet very young, and probably all that has been discovered as to the nature and work of these organisms is as nothing to what remains undiscovered. But although the last thirty years have seen such important work done in this field it is interesting to note how for centuries back the idea of disease being caused by minute organisms has been floating in men's minds. Long before the days of Aly Pasha's friend we find references to germs and animalculæ as being possible causes of disease. To say nothing of Harvey, Leuwenhoek and the early microscopists described small bodies and hinted at the possibility of diseases being caused by their agency. Francisco Redi, born 1626, also refers to the matter.

PARASITIC PROTOZOA IN THE SKIN.

IN a series of reprints from the Johns Hopkins Hospital Reports, Vol. I., Mr. T. C. Gilchrist, M.R.C.S., L.S.A., describes "two cases of protozoan (coccidioidal) infection of the skin and other organs"; "a case of blastomycetic dermatitis in man"; a series of "comparisons of the two varieties of protozoa, and the blastomyces found in the preceding cases, with the so-called parasites found in various lesions of the skin"; "two cases (including one in the negro) of molluscum fibrosum, with the pathology"; and "the pathology of a case of dermatitis herpetiformis (Duhring)." The first paper is of interest as indicating the enormous development of protozoa in an acute protozoan affection, these organisms being very readily demonstrated, whilst the second point of interest is that the two patients had lived under similar conditions and in similar regions, the Azores and California. In the second case of blastomycetic dermatitis in man it is noted that there were certain distinctions between this and the protozoan dermatitis, the protozoa developing by sporulation, whilst the yeast cells multiplied by gemmation. The third paper is devoted in the main to the proof that most of the parasites described in many so-called parasitic lesions of the skin are forms due to changes in the nuclei and protoplasm of the epithelial cells, and that they are not blastomyces or protozoa at all, and he points out that these bodies are found in simple skin diseases, sometimes in as great numbers as they are in cancer, that therefore the etiological relation must be slight and that they are rather the result of changes in the epithelium than the cause. It is not necessary here to follow Mr. Gilchrist through the whole of his reasoning; but for those who take a special interest in the subject of parasitic, and supposed parasitic, infection of the skin we commend these papers as being the work of a careful and original observer.

THE JUBILEE OF THE PATHOLOGICAL SOCIETY.

ONE of the medical events of the past week was the celebration, on Tuesday last, of the jubilee of the Pathological Society of London by a conversazione at 20, Hanover-square. The large attendance of members and guests testified to the interest taken in this function as well as to the well-earned appreciation of the work which this society has done. In his able address, delivered with marked oratorical effect, the President, Mr. Butlin, paid a tribute to the influence the society has exerted in promoting the study of morbid anatomy and pathology, and although he seemed to indicate that things are tending to a change in the field of operations which may have the effect of diminishing interest in the proceedings, he would be the last to admit that a society such as this should wholly cast aside the kind of work upon which its reputation has been made. It ought to be possible to incorporate new lines of research without losing touch of the older and more widely studied branch of pathology. Morbid anatomy and histology are not yet exhausted, and it must not be forgotten that the Pathological Society has, by the encouragement given to these pursuits, often been the means of obtaining valuable and accurate records from those engaged in them. During its fifty years of existence many who have since risen to eminence in medicine and surgery have owed their first introduction to the notice of the profession to this society. Its published transactions no doubt reflect the gradual evolution of pathological doctrine, but at the same time they embody the observations of some of the most gifted minds. A society whose meetings have seen amongst the most constant attendants and contributors such men as Jenner, Bristowe, Quain, Peacock, Hulke, Hutchinson, Hilton Fagge, Moxon, Wilson Fox, Bastian, Gawen Sutton, Murchison, Gull, De Morgan, Prescott Hewett, Dickinson, Holmes, and Greenhow, to name but a few, must be able to embrace all branches of the science with which it deals and ought to enjoy perpetual vitality.

THE CONNECTING BRIDGE BETWEEN EPITHELIAL CELLS.

IN a late number of Du Bois Reymond's *Archiv* S. Garten gives the results of his observations on the bridges of protoplasm which extend from one cell to another, and are generally considered to aid in holding the tissues together and in enabling the pabulum of the cells to reach them through the spaces they form. He investigated the granulations that form after removal of the epidermis, and having allowed complete cicatrisation to be effected the whole area was excised and fixed in Flemming's fluid. He was satisfied

that in cases of small losses of substance the epithelium is drawn mechanically towards the centre of the wound by contraction of the bridges. The traction exerted is not, however, very great in degree, since the cells near the periphery of the wound are but slightly striated. In parts a little more distant from the margin of the wound the intercellular spaces were augmented in size. By an ingeniously contrived method of applying intermittent pressure to the superficial layers of the cutis he was able to obtain many examples of mitosis. Intercellular bridges are very distinctly visible in the laminated epithelium of the vocal cords, the function of which appears to be to enable the surface of the membrane to be always smooth and polished in the numerous changes of length that occur in phonation and thus to secure a pure and clear tone. Lastly, Garten was able to demonstrate intercellular bridges by many different methods in the gastric epithelium of the dog. Here the intercellular spaces are largest at the attached extremity of the cells, and, in opposition to Heidenhain's observations in the intestines, round cells rarely occupy them. Taking into consideration the great variations in capacity the stomach undergoes it seems probable that the bridges serve the purpose of retaining the cells in connexion with one another. The spaces between the bridges also permit the acid-forming cells to be immersed in an alkaline fluid.

ALCOHOLISM IN NORMANDY.

DR. BRUNON, in the *Bulletin Médical*, enters a protest against the increasing consumption of alcohol in Normandy, which in this part of France has reached the maximum. The quantity of alcohol drunk at Rouen is equal to an average per head of the population of seventeen litres of pure alcohol. In other centres of the province the consumption is even higher; it amounts, for instance, to nineteen litres at Lillebonne. Of course, it is cheap corn or maize spirit that is consumed; a brandy made from the grape would be much too dear, and the supply of real cognac falls far short of the demand. The chief consumers belong to the working class. Indeed, Dr. Brunon affirms that they only work so as to drink and that they spend but a very small proportion of their earnings in food; all the rest goes to the publican. In the department of the Seine-Inférieure—that is, the Havre district—there is a drink-shop for every sixty-seven inhabitants. The women are also hard drinkers, and drink is supplied to them by the grocer, the greengrocer, and even by the men who sell roast chestnuts at the corners of the streets. Young women and children refuse to drink their coffee unless it is mixed with brandy and children begin to drink coffee when only two or three years old. Naturally the children very soon ask for the brandy which they see their seniors mix with the coffee, and parents are weak enough to very generally accede to the demands of their children. The agricultural labourers seem to drink nearly as much as the workmen of the towns. Alcoholism is also very prevalent among the trading class, and especially among grocers and café proprietors. It is the rule for commercial travellers in all branches of trade to drink over each transaction. A commercial traveller who refused to drink would not be able to do any business. Dr. Brunon relates a case of a traveller in the grocery trade who regularly consumed eighteen "doses" of vermouth before breakfast and from five to eight of brandy in the afternoon. Later in life this traveller opened a grocer's shop and found himself compelled to drink with almost every customer. On the other hand, it appears that the wealthy and better educated classes, especially those who live in the towns, are drinking much less than they did formerly. In view of these facts it is important to note that in Normandy both wine and beer are imported, and, therefore, are expensive luxuries. Cider is the only drink which the country provides. It is in the wine-growing countries that the least drunkenness occurs. Nothing has done more to increase alcoholism in France than the prevalence of phylloxera. Now, however, that new vines have had time to grow it becomes easier to make some effort to place wholesome wines on the markets.

SAMPLES.

TRADE does not languish in our days for the lack of enterprise; excess of zeal rather than the want of it is its characteristic. That this condition is natural and in a sense even commendable need not be disputed so long as the methods employed are proper and the products for exchange are worthy of their professed reputation. Unfortunately, both of these needful provisions are frequently ignored in certain transactions which possess a commercial interest for the medical profession. The former of them was conspicuously disregarded in a case which was recently settled by litigation in a county court. The defendant, a medical practitioner, successfully vindicated his action in refusing to pay for goods left with him by the agent of a firm of drug-merchants as samples of their manufacture. How such an error came to be committed as to make a demand for payment under the circumstances it is not easy to understand. The second desideratum to which we have alluded—an article deserving of the position claimed for it—is likewise not infrequently absent where novelties in medical treatment are concerned. It is not, therefore, surprising that to most of our fraternity, and especially to those in busy practice, the pharmacist's traveller is not a too-welcome visitor. His name is legion, his words not few, and his wares often merely ready-made prescriptions not suitable for general use—in fact, ordinary patent remedies. The medical profession happily has not yet sunk so low that its members need ask for aid from without in their own special business of prescribing, and they can hardly be expected to exchange for this responsible function the insignificant *rôle* of the mere promoter of nostrums. Yet this, it would appear, is what is expected of them. What is required in medical practice is not an armament of the phials or the preparations of some particular druggist, but a knowledge and a supply of the most efficient means of treatment, whether of drugs or no, and a competent body of properly-trained pharmacists as dispensers.

MR. JUSTICE CAVE granted Dr. W. B. Ransom, on Wednesday last, an interlocutory injunction restraining the Od Chem. Co. from publishing a testimonial in favour of "Sanmetto" purporting to come from Dr. Ransom, which testimonial Dr. Ransom had not written. The judge granted Dr. Ransom "costs in any event," which would seem to mark his appreciation of the cruel position in which the dissemination of such falsehoods among his professional brethren had placed Dr. Ransom.

THE following resolution was passed at a meeting of the Hospital Chaplains' Union, St. Thomas's Hospital, held on Oct. 19th: "That the Hospital Chaplains' Union desire to express to Mrs. Benson and her family their sense of the great loss sustained by the whole Anglican Communion in the death of the Archbishop of Canterbury, and to place on record their appreciation of the deep interest he always showed in the welfare of the metropolitan and other hospitals."

A MEETING of the general council of the Royal British Nurses' Association was held on Friday, Oct. 16th, at the rooms of the association, at which Sir J. Crichton-Browne made a statement as to an action recently brought against him by a member of the association with reference to a

ruling of his whilst presiding as chairman at the annual general meeting and placed his resignation in the hands of the President. A resolution was proposed, seconded, and carried by 63 votes to 1 that Sir J. Crichton-Browne's resignation be not accepted and that he be re-elected vice-chairman of the association for the ensuing year. A cordial vote of thanks was accorded him for his services during the past year.

THE next meeting of the Neurological Society of London will be devoted to Pathology, and will be held at the National Hospital, Queen-square, W.C., on Nov. 5th, at 8.30 P.M. Members wishing to make communications are invited to inform the secretaries, Dr. F. W. Mott, F.R.S., and Dr. J. S. Risien Russell, as soon as possible, at 4, Queen Anne-street, W.

THE annual dinner of the past and present students of Charing Cross Hospital will be held on Friday next, Oct. 30th, at 6 30 for 7 P.M. in the Holborn Restaurant (Royal Venetian Chamber), Mr. James Cantlie in the chair. Tickets, 5*s.* 6*d.* each, can be obtained from the honorary secretaries, Mr. W. Hardcastle and Mr. W. Hawkins, at the Hospital.

SIR WILLIAM MACCORMAC'S condition has greatly improved during the past week. The pulmonary trouble is now steadily subsiding, strength is gradually returning, and sufficient sleep is obtained. The patient is altogether on a fair way to recovery from his serious illness.

THE REPORT OF THE AMERICAN PEDIATRIC SOCIETY'S COLLECTIVE INVESTIGATION INTO THE USE OF ANTITOXIN IN THE TREATMENT OF DIPHTHERIA IN PRIVATE PRACTICE.[1]

THIS subject was chosen by the officers of the society for its eighth annual meeting with the belief that a large amount of valuable experience not otherwise available might in this way be reached and collated. A circular letter was prepared and issued by the committee early in April, 1896. It asked for information upon the following points:—Age, previous condition, duration of disease when the first injection was made, the number of injections, the extent of the membrane (tonsils, nose, pharynx, and larynx), whether or not the diagnosis was confirmed by culture, complications or sequelæ—viz., pneumonia, nephritis, sepsis, and paralysis—the result, and remarks, including other treatment employed, the preparation of antitoxin used, and general impressions drawn from the cases. Reports were returned from 615 different physicians, with 3628 cases. Of these 244 cases have been excluded, chiefly for uncertainty of diagnosis. There are left, then, of these cases 3384 for analysis. These have been observed in the practice of 613 physicians from 114 cities and towns in fifteen different states, the district of Columbia, and the Dominion of Canada. In the general opinion of the contributors the type of diphtheria during the past year has not differed materially from that seen in previous years, so that it has been average diphtheria which has been treated. If there is any difference in the severity of the cases included in these reports from those of average diphtheria it is that they embrace a rather larger proportion of very bad cases than are usually brought together in statistics. In many instances the statement is made by the reporters that the serum was resorted to only when the condition of the patient had become alarmingly worse under ordinary methods of treatment. This is shown by the unusually large number of cases in which injections were made late in the disease. Again, many physicians, being as yet in some dread of the unfavourable effects of the serum, have hesitated to use it in mild cases and have given it only in those which from the onset gave evidence of being of a severe type.

In addition to this material which has come in response to the circular there have been placed at the disposal of the committee, by the courtesy of Dr. H. M. Biggs, 942 cases treated in their homes in the tenements of New York. Of these 856 were injected by the corps of inspectors of the New York Health Board upon the request of the attending physician, and 86 others were treated by physicians receiving free antitoxin from the Health Board. In the first group the diagnosis of diphtheria was confirmed by culture in every case, and in all of the latter except 26; in these the diagnosis rested upon extensive membranous deposits or laryngeal invasion. The cases of the New York Health Board were of a more than ordinarily severe type, 485, or more than 50 per cent., of these being reported as being in bad condition at the time of injection; to mild cases the inspectors were not often called. Further, an unusually large number of them (38 per cent.) were injected on or after the fourth day of the disease. Through the courtesy of Dr. Biggs the committee is able to include also a partial report upon 1468 cases from Chicago, treated in their homes by a corps of inspectors of the Health Department. It was the custom in Chicago to send an inspector to every tenement-house case reported and to administer the serum unless it was refused by the parents. These cases were, therefore, treated much earlier and the results were correspondingly better than were obtained in New York, although the serum used was the same in both cities—viz., that of the New York Health Board.

[The report contains a table giving the result as influenced by the time of injection. The conclusions to be drawn from it are as follows:]

The grand total gives 5794 cases with 713 deaths, or a mortality of 12·3 per cent., including every case returned; but 218 cases were moribund at the time of injection or died within twenty-four hours of the first injection. Should these be excluded there would remain 5576 cases (in which the serum may be said to have had a chance), with a mortality of 8·8 per cent. Of the 4120 cases injected during the first three days there were 303 deaths, a mortality of 7 3 per cent., including every case returned. If from these be deducted the cases which were moribund at the time of injection or which died within twenty-four hours there were 4013 cases, with a mortality of 4·8 per cent. Behring's original claim that if cases were injected on the first or second day the mortality would not be 5 per cent. is more than substantiated by these figures. The good results obtained in third-day injections were a great surprise; but after three days have passed the mortality rises rapidly and does not differ materially from ordinary diphtheria statistics. The figures emphasise the statement so often made, that relatively little benefit is seen from antitoxin after three days; however, it must be said that striking improvement has in some cases been seen even when the serum has been injected as late as the fifth or sixth day. The duration of the disease, therefore, is no contra-indication to its use. In the cases in which the diagnosis was not confirmed by a bacteriological examination the mortality (16·3 per cent.) is 5 per cent. higher than in the bacteriological cases (11·4 per cent.). This difference is to be explained by two facts: firstly, the committee have excluded from their reports all tonsillar cases (many of which were mild ones) not confirmed by bacteriological examinations; and, secondly, by the fact that this group of cases comprises those treated in the country where physicians have hesitated to use antitoxin unless the type of the disease was a grave one, and where also a large proportion of the injections were made later than in the cities. However, excluding the moribund cases the mortality is but 9·6 per cent., which differs but slightly from the cases confirmed by bacteriological diagnosis. In the subsequent statistics the committee consider together all the cases, whether bacteriologically confirmed or not, as the statistics are not materially altered by this grouping.

THE RESULTS AS MODIFIED BY THE AGE OF THE PATIENTS.

Unfortunately the ages have not been furnished in the report of the Chicago cases. The highest mortality is seen as in all reports in the cases under two years, but including all those returned—even those that were moribund when injected—the death-rate was but 23·3 per cent., while if cases moribund when injected or dying within the first twenty-four hours be

[1] Presented at the eighth annual meeting of the society, held in Montreal, May 27th to 29th, 1896.

excluded it falls to 19·2 per cent. After the second year there is noticed a steady decline in mortality up to adult life. In many of the reports previously published the statement has been made that no striking improvement in results was observed in adult cases treated by the serum. The committee's figures strongly contradict this opinion. Of 359 cases over fifteen years old there were but 13 deaths; 4 of these were moribund at the time of injection, not one of them living over twelve hours; 2, both sixty years old, were already crippled by previous organic disease, one of the heart and the other of the kidneys. In 1 case convalescent from measles there was undoubted evidence of streptococcus septicæmia. Only 2 of the cases were injected as early as the third day, 3 of them on the fifth day, and 1 on the ninth day. Omitting the 4 moribund cases, the mortality of 355 adult cases treated with the serum is 2·5 per cent.

PARALYSIS.

Reliable data upon this point and those hereafter to be mentioned are to be had only from the 3384 reports returned to the committee. Of this number paralytic sequelæ occurred in 328 cases, or 9·7 per cent. Of the 2934 cases which recovered paralysis was present in 276, or 9·4 per cent. Of the 450 cases which died paralysis was noted in 52, or 11·4 per cent. Observations of some of the individual cases are interesting, particularly those of cardiac paralysis. It is twice stated that the child had got up and walked out of the house, where it was found dead. Twice death occurred after sitting up suddenly; once on jumping from one bed into another. One patient aged twenty years got up contrary to orders and died soon afterwards. Another patient was apparently well until he indulged in a large quantity of cake and candy, soon after which cardiac symptoms developed and he died shortly. One case was that of a woman sixty years old who had serious organic cardiac disease. It is difficult to state what protective power the serum may have over the nerve cells and fibres. Apparently this is not great unless the injections are made early in the disease, and even then in severe cases the amount of damage done to these tissues in twenty-four hours may be very great, even irreparable. Great discrepancy exists in the statements made regarding the frequency of paralytic sequelæ after diphtheria. In a series of 1000 cases reported by Lennox Browne paralytic sequelæ were present in 14 per cent. In 2448 cases reported by Sanné paralysis was noted in 11 per cent. In the series of cases here reported the difference is slightly in favour of the antitoxin treatment, but paralysis is certainly frequent enough to show how extremely susceptible the nervous elements are to the diphtheria toxins. One thing is quite striking from a study of these cases, and that is the proportion that have died from late cardiac paralysis. That very many of them would undoubtedly have succumbed earlier in the disease from suffocation (laryngeal cases) or diphtheritic toxæmia, had the serum not been employed, is beyond question. Although the serum is able to rescue even many such desperate cases it cannot overcome the effects of the toxins upon the cells, which have occurred before it was injected.

SEPSIS.

Sepsis is stated to have been present in 362 of the 3384 cases (10·7 per cent.). It was present in 145 (33 per cent.) of the fatal cases. Some explanation is necessary for a correct appreciation of these figures. The majority of the reporters, it is plain from their remarks, have not distinguished between diphtheritic toxæmia and streptococcus sepsis. The former is certainly meant in the great majority of the cases. There is a very small proportion in which there is evidence of streptococcus sepsis. Six cases complicating measles and five complicating scarlet fever, however, should possibly be included among this list.

NEPHRITIS.

The statements on this point are quite unsatisfactory. The reports state that nephritis was present 350 times, or in 10 per cent. of the cases. On the one hand, it must be stated that the diagnosis of nephritis rests in many cases simply upon the presence of albumin in the urine, but on the other hand it is true that in a large number of the cases —more than half—no examination of the urine is recorded as having been made, so that it is impossible to state with anything like approximate accuracy the frequency of nephritis in these cases. Of the 450 fatal cases the presence of nephritis is mentioned, without qualification or explanation in 39 cases, these being usually put down also as septic, dying in the acute stage of the disease. There are 15 fatal cases, however, in which the renal disease was stated as the cause of death. In no less than 9 the nephritis occurred late in the disease, usually during the second or third week. In these 15 cases the evidence of severe nephritis was conclusive, such symptoms being present as dropsy, suppression of urine, with coma or convulsions.

BRONCHO-PNEUMONIA.

Broncho-pneumonia is stated to have been present in 193 of the 3384 cases, or 5·9 per cent, a remarkably small proportion when compared with hospital statistics. Among the patients that recovered broncho-pneumonia was noted 114 times, or in 3·8 per cent.; among the fatal cases 79 times, or in 17·5 per cent., but in only about one-half of these was the pneumonia the cause of death.

LARYNGEAL CASES.

Of the 3384 cases the larynx is stated to have been involved in 1256 cases, or 37·5 per cent. This proportion is somewhat higher than is usual, and is partly explained by the fact that several physicians have sent in the reports only of their laryngeal cases. In 691, or a little more than one-half the number, no operation was done, and in this group there were 128 deaths. In 48 of them laryngeal obstruction was responsible for the fatal issue, operation being refused by the parents or no reason for its being neglected having been given. In the 80 remaining fatal cases the patients died from other complications and not from the laryngeal disease. In the 563 cases, therefore, or 16·9 per cent. of the whole number, there was clinical evidence that the larynx was involved, and yet recovery took place without operation. In many of these cases the symptoms of stenosis were severe and yet disappeared after injection without intubation. No one feature of the cases of diphtheria treated by antitoxin has excited more surprise among the physicians who have reported them than the prompt arrest, by the timely administration of the serum, of membrane which was rapidly spreading downwards below the larynx. Turning now to the operation cases, the same remarkable effects of the antitoxin are noticeable. Operations were done in 565 cases, or in 16·7 per cent. of the entire number reported; intubation was performed 533 times, with 138 deaths, or a mortality of 25·9 per cent. In the above are included 9 cases in which a secondary tracheotomy was done, with 7 deaths. In 32 cases tracheotomy only was done, with 12 deaths, a mortality of 37·4 per cent. Of the 565 operation cases 66 were either moribund at the time of operation or died within twenty-four hours after injection. Should these be deducted there remain 499 cases operated upon by intubation or tracheotomy, with 84 deaths, a mortality of 16·9 per cent. Of the 2819 cases not operated upon there were 312 deaths, a mortality of 11·3 per cent. Deducting the moribund cases, or those dying within twenty-four hours after injection, the total mortality of all non-operative cases was 9·12 per cent. The Committee compare the results of intubation in cases in which the serum was used with those obtained with this operation before the serum was introduced. Of 5546 intubation cases collected by McNaughton and Maddren (1892) the mortality was 69·5 per cent. Since that time statistics have improved materially by the general use (in and about New York at least) of calomel fumigations. With this addition the best results published (those of Brown) showed in 279 cases a mortality of 51·6 per cent. The Committee put beside the cases of McNaughton and Maddren the 533 intubations with antitoxin with 25·9 per cent. mortality. With Brown's personal cases they compare those of the 14 observers who have reported to the Committee 10 or more intubation operations in cases injected with serum. These comprise 280 cases with 65 deaths, a mortality of 23·2 per cent. In both comparisons the mortality without the serum is more than double that in the cases in which serum was used. But even these figures do not adequately express the benefit of antitoxin in laryngeal cases. Witness the fact that over one-half the laryngeal cases did not require operation at all. Formerly 10 per cent. of recoveries was the record for laryngeal cases not operated upon. Surely if it does nothing else the serum saves at least double the number of cases of laryngeal diphtheria saved by any other method of treatment.

A STUDY OF THE FATAL CASES.

Of the 450 fatal cases in the Committee's report 229, or one-half, received their first injection of the serum on or after the fourth day of the disease, and 152, or over one-third

of these, on or after the fifth day. There were 58 cases in which it was stated that the child was moribund at the time of injection, the serum being administered without the slightest expectation of benefit, but at the earnest solicitation of the parents. There remain 350 cases in which the cause of death could be pretty accurately determined by the reports. These died from the following causes, the most important cause being placed first:—Sepsis (including diphtheritic toxæmia) was the cause of death in 105 cases, of which 16 had nephritis, 4 were intubated or tracheotomised, 2 were laryngeal cases not operated upon, 4 had paralysis, 1 had pneumonia, and in one the fatal sepsis was attributed to a traumatic condition of the left knee. Cardiac paralysis was the cause of death in 53 cases. Under this head are included cases of sudden heart failure occurring at the height of the disease (21 in number), as well as those more commonly designated as heart paralysis, where death occurred suddenly after the throat cleared off. Of the latter there were 32 examples; 4 of these cases had throat paralysis, 19 were septic, 8 had nephritis, 5 were intubated, and 1 tracheotomised. Broncho-pneumonia was put down as the cause of death in 54 cases. In 37 of these it followed laryngeal diphtheria; of these 22 were intubated and 4 tracheotomised; 2 had nephritis and 9 were septic. Laryngeal diphtheria without operation caused death in 48 cases. In some of these the operation was refused by the parents; in others it was not undertaken by the physician, the patients dying from asphyxia. Diphtheritic tracheitis or bronchitis caused death in 11 cases; all of these were intubated, and in 2 there was evidence of the existence of membrane in the bronchi before operation. Sudden obstruction of the intubation tube was the cause of death in 3 other laryngeal cases. The tube was coughed up in 3 cases, fatal asphyxia occurring before the physician could be summoned; and 1 patient died on the table during tracheotomy. Nephritis was the cause of death in 15 cases. General paralysis (multiple neuritis) was the cause of death in 5 cases; in all probability the pneumogastric nerve was involved. Paralysis of the respiratory muscles produced death in 1 case of laryngeal diphtheria which was intubated. Measles associated with diphtheria produced death in 6 cases; 5 of these were laryngeal and were intubated; in 2 there was pneumonia and in 2 sepsis. Diphtheria developed during the height of the measles or immediately followed it. Scarlet fever with diphtheria was the cause of death in 6 cases; in 2 of these there were broncho-pneumonia, nephritis, and sepsis; in 2 scarlet fever preceded diphtheria; and in 1 there was sepsis with gangrene of the tonsils. In the sixth case the patient died from scarlet fever, which developed during convalescence from the diphtheria. Gangrene of the cervical glands or cellular tissue of the neck was the cause of death in 2 cases, associated with profound general sepsis. Endocarditis caused death in 1 case nineteen days after the diphtheria. Diphtheritic inflammation of the tracheal wound with sepsis caused death in 1 case. General tuberculosis five weeks after diphtheria was assigned as the cause of death in 1 case. Exhaustion was the cause of death in 3 cases: one a protracted case, another complicated by pneumonia and sepsis, and 1 by nephritis. Convulsions were the cause of death in 3 cases apart from disease of the kidneys. In 1, the well-known Brooklyn case, the girl died ten minutes after the injection; in another twenty-four hours after injection. Meningitis was assigned as the cause of death in 1 case.

THE KINDS OF ANTITOXIN USED.

These are given in the order of frequency with which they have been used. First, the serum prepared by the New York Board of Health; second, Behring's; third, Gibier's[2]; fourth, Mulford's; fifth, Aronson's; and sixth, Roux's. In addition a large number of cases are reported as having been treated by the serum prepared by the health boards of different cities, Brooklyn, Newark, Rochester, Pittsburg, &c. The largest number of cases have been treated by the serum prepared by the New York Health Board, a very large number by Behring's serum, all others being relatively in small numbers. In the great majority of cases but one injection is reported. In very severe ones two and three have been given. The largest amount is in a case by Weimer (Chicago), who gave eighteen injections of Behring's serum to a laryngeal case, in a child thirteen years old. Another instance of 10 injections is reported with no unfavourable symptoms. As a rule, the dosage has been smaller in antitoxin units than is now considered advisable, particularly in many of the laryngeal cases and others injected later than the second day.

CASES INJECTED DURING THE FIRST THREE DAYS IN WHICH ANTITOXIN IS SAID TO HAVE PRODUCED NO EFFECT, THE DISEASE ENDING FATALLY.

These cases are sixteen in number. The report contained brief notes of all these cases, which tend to show that they cannot be regarded as test cases for the serum treatment.

CASES IN WHICH UNFAVOURABLE SYMPTOMS WERE, MIGHT HAVE BEEN, OR WERE BELIEVED TO HAVE BEEN, DUE TO ANTITOXIN INJECTIONS.

Only three cases reported to the committee could by any possibility be placed in this category. All the details furnished by the reporters are reproduced.

CASE 1.—Sudden death in convulsions ten minutes after injection. This case is the already well-known Valentine case, occurring in Brooklyn in the spring of 1895. The principal points were as follows:—A girl sixteen years old; in good condition; tonsillar diphtheria; diagnosis confirmed by culture. Injected on the first day with 10 c.c. Behring's serum. Died in convulsions ten minutes later.

CASE 2.—Fairly healthy boy, two and a half years old. Membrane on the tonsils, pharynx, and in nose. Diagnosis confirmed by culture; injected on the morning of the fourth day with 10 c.c. (1000 units) New York Health Board serum. Temperature at time of injection 100·4° F.; no sepsis, and child apparently not very sick. Urine free from albumin. Distinctly worse after injection; in ten hours the temperature rose to 103°, urine albuminous. Throat cleared off rapidly, but marked prostration and great anæmia, with irregular, fluctuating temperature, continued, and death ensued from exhaustion, with heart failure, four days after the use of the serum.

CASE 3.—Male, three and a half years old. Diagnosis confirmed by culture; two days ill; membrane on tonsils and in nose. Two injections New York Health Board serum. "A rapid nephritis developed after the second injection, causing coma, convulsions, and death twenty hours after the second injection." In response to an inquiry for further particulars the following was received: "The case seemed a mild one, but the injection was given one afternoon and repeated the following afternoon, about 1500 units in all. The urine up to that time had not been examined. About fourteen or sixteen hours after the second injection unfavourable symptoms began to develop, pointing to infection of the kidneys. The urine was found to be loaded with albumin. My impression at the time was that the antitoxin either produced, hastened, or intensified the nephritis, thereby causing the fatal termination."

In regard to the three fatal cases just cited Case 1 is wholly unexplained. In Case 2 the query arises, Did this sudden change hinge upon the injection of the serum or was it one of those unexplained abrupt changes for the worse in a case apparently progressing favourably, so often observed in diphtheria? As regards Case 3, it will be seen from the letter that the evidence is not at all conclusive. All details available are given, and the reader may draw his own conclusions.

SUMMARY.

1. The report includes returns from 615 physicians. Of this number more than 600 have pronounced themselves as strongly in favour of the serum treatment, the great majority being enthusiastic in its advocacy. 2. The cases included have been drawn from localities widely separated from each other so that any peculiarity of local conditions to which might be ascribed the favourable reports must be excluded. 3. The report includes the record of every case returned except those in which the evidence of diphtheria was clearly questionable. It will be noted that doubtful cases which recovered have been excluded, while doubtful cases which were fatal have been included. 4. No new cases of sudden death immediately after injection have been returned. 5. The number of cases injected reasonably early in which the serum appeared not to influence the progress of the disease

[2] It is worthy of note that in the tests made by the State Board of Health of Massachusetts, published under date of April 6th, 1896, this serum was found far below the standard as labeled upon the bottle, thus a package marked to contain 2500 units by test was found to contain less than 700. All the other varieties of serum tested were found essentially up to the standard.

was but sixteen, these being made up of nine cases of somewhat doubtful diagnosis, four cases of diphtheria complicating measles, and three malignant cases in which the progress was so rapid that the cases had passed beyond any reasonable prospect of recovery before the serum was used. In two of these the serum was of uncertain strength and of doubtful value. 6. The number of cases in which the patients appeared to have been made worse by the serum was three, and among these there is only one new case in which the result may fairly be attributed to the injection. 7. The general mortality in the 5794 cases reported was 12·3 per cent.; excluding the cases moribund at the time of injection or dying within twenty-four hours it was 8·8 per cent. 8. The most striking improvement was seen in the cases injected during the first three days. Of 4120 such cases the mortality was 7·3 per cent.; excluding cases moribund at the time of injection or dying within twenty-four hours it was 4·8 per cent. 9. The mortality of 1448 cases injected on or after the fourth day was 27 per cent. 10. The most convincing argument, and to the minds of the committee an absolutely unanswerable one, in favour of serum-therapy is found in the results obtained in the 1256 laryngeal cases (membranous croup). In one-half of these recovery took place without operation, in a large proportion of which the symptoms of stenosis were severe. Of the 533 cases in which intubation was performed the mortality was 25·9 per cent., or less than half as great as has ever been reported by any other method of treatment. 11. The proportion of cases of broncho-pneumonia—5·9 per cent.—is very small and in striking contrast to results published from hospital sources. 12. As against the two or three instances in which the serum is believed to have acted unfavourably upon the heart might be cited a large number in which there was a distinct improvement in the heart's action after the serum was injected. 13. There is very little, if any, evidence to show that nephritis was caused in any case by the injection of serum. The number of cases of genuine nephritis is remarkably small, the deaths from that source numbering but fifteen. 15. The effect of the serum on the nervous system is less marked than upon any other part of the body, paralytic sequelæ being recorded in 9·7 per cent. of the cases, the reports going to show that the protection afforded by the serum is not great unless injections are made very early.

(Signed) L. EMMETT HOLT, M.D.,
W. P. NORTHRUP, M.D.,
JOSEPH O'DWYER, M.D.,
SAMUEL S. ADAMS, M.D.,
Committee.

THE ACTION OF THE SOCIETY UPON THE REPORT.

At the close of its presentation the society voted to accept the report of the committee, and after a full discussion it was decided to embody its conclusions in the following resolutions:—

1. *Dosage.*—For a child over two years old the dosage of antitoxin should be in all laryngeal cases with stenosis and in all other severe cases from 1500 to 2000 units for the first injection, to be repeated in from eighteen to twenty-four hours if there is no improvement, and a third dose after a similar interval if necessary. For severe cases in children under two years, and for mild cases over that age, the initial dose should be 1000 units, to be repeated as above if necessary; a second dose is not usually required. The dosage should always be estimated in antitoxin units and not of the amount of serum.

2. *Quality of antitoxin.*—The most concentrated strength of an absolutely reliable preparation.

3. *Time of administration.*—Antitoxin should be administered as early as possible on a clinical diagnosis, not waiting for a bacteriological culture. However late the first observation is made, an injection should be given unless the progress of the case is favourable and satisfactory.

4. The committee was appointed to continue its work for another year, and requested to issue another circular asking for the further coöperation of the profession, this circular to be sent out as soon as possible, in order that physicians may record their cases as they occur through the coming year.

[We regret that the exigencies of space have prevented us from printing several elaborate statistical tables which accompanied the report, and have compelled us to omit also the excellent clinical accounts of interesting individual cases.—ED. L.]

THE VACCINATION COMMISSION AND THE AUSTRIAN STATE RAILWAY STATISTICS.

AMONGST the evidence upon which the opponents of vaccination have been wont to rely has been the remarkable official small-pox statistics of the Austrian State Railways for the years 1872, 1873, and 1874, issued by the late Dr. Keller, then chief medical officer to the railways. These statistics were compiled from the returns furnished by 80 district medical officers and comprised 3385 cases. In them Dr. Keller arrived at the somewhat unexpected conclusion that in early life the small-pox mortality was much higher amongst the vaccinated than amongst the unvaccinated, his actual figures being:—

Ages.	Vaccinated.	Unvaccinated.
	Per cent.	Per cent.
2 to 3 years	31·25	18·89
3 to 4 years	21·96	16·83
4 to 5 years	20·00	14·29
5 to 10 years...	13·84	8·90

Whilst, more surprising still, he gives the mortality amongst the *re-vaccinated* as 40 per cent. between four and five years of age, 20 per cent. between five and ten, and 28·5 per cent. between fifteen and twenty. This was so contrary to experience that it is singular these data were not criticised during Dr. Keller's lifetime. They were accepted gladly by anti-vaccinationists in this country and elsewhere, and questions were put upon them at the Royal Commission to Mr. A. R. Wallace and Mr. A. Wheeler. However, Dr. Körösi at the Washington International Medical Congress showed that grave fallacies had crept into these statistics. Although it was not possible to find anywhere the original manuscript returns which were in Dr. Keller's possession, Dr. Körösi was able to get duplicate returns from eight of the district officers dealing with 644 cases, and these showed such marked difference from the returns published by Dr. Keller at the time as to throw grave doubts on the accuracy of all his figures. Thus:—

—	Mortality amongst		
	Vaccinated.	Re-vaccinated.	Unvaccinated.
	Per cent.	Per cent.	Per cent.
According to Keller ...	13·37	17·39	12·89
Original returns (eight districts)	8·82	*Nil.*	19·23

However, the rectification of Dr. Keller's statistics as a whole has only recently been made.[1] A further search in the archives of the State railways resulted in the discovery of copies of the returns made in the years in question, or, rather, for those of 1872 and part of 1873. A comparison of these with the official statements of Dr. Keller revealed a number of falsifications, which had the effect of diminishing the number of unvaccinated deaths and increasing those of the vaccinated, and especially of the re-vaccinated. All this is clearly set forth in a paper read by Dr. Körösi in October, 1894, before the Vienna meeting of German naturalists and since republished.[2] A committee was appointed which undertook the comparison of the original documents with the returns issued by Dr. Keller, with the result that they found the latter to vary in essential points from the original data. Dr. Körösi shows how slight alterations in numerals can produce very great changes—e.g., at Szegedin there were 4 vaccinated attacks with no deaths; the case mortality was, therefore, $\frac{0}{4} = 0$; but the numerator was altered to 1, which made this mortality $\frac{1}{4}$. At Kolin 1 out of 6 vaccinated died, a mortality of $\frac{1}{6} = 16{\cdot}6$ per cent.; this was altered to $\frac{1}{2}$, or 50 per cent.; and at Köbölut $\frac{1}{10}$ was altered to $\frac{1}{9}$ (i.e.,

[1] See Dr. Körösi's letter, THE LANCET, Oct. 10th, 1896.
[2] Die Pockenstatistik der Oesterreichischen Staatsbahngesellschaft. Ein Beitrag zur Kritik der Vaccinationsstatistik. Von Dr. Josef Körösi. Braunschweig, 1896.

10 per cent. to 16·6 per cent.). Per contra, Dr. Pichler of Steyerdorf reported 38 unvaccinated with 13 deaths, or 1/3, but Dr. Keller gives for the same place 68 instead of 33, thus reducing the mortality to 1/5. And the result of this further inquiry has only confirmed the universal experience that the unvaccinated mortality far exceeds the vaccinated at all ages, the statistics "officially" issued by the late Dr. Keller being thoroughly unreliable.

COREA AND THE COREANS.

(*Concluded from p. 1030.*)

THE Coreans know nothing of their origin, and their ignorance is not a matter for surprise, as they possess little or no literature. According to traditions preserved in Japanese works the Corean nation is derived from a Mongol source; but more probably the present inhabitants are a mixture, the aborigines having become amalgamated with the invading Chinese, Manchurian, and Japanese hordes that at various epochs have overrun the peninsula. In physique the Coreans resemble the northern Chinese, having round, smooth faces, yellow skins, oblique eyes, prominent cheekbones, flat noses, and thick lips. Their average height is about five feet six inches, and they look muscular and robust, though in this respect appearances are deceptive. That they are an exceptionally filthy race all travellers are agreed, but Dr. Chastang says it is an exaggeration to assert that a Corean is only washed twice in his life, the day he is born and the day he dies, for he himself has seen both adults and children bathing in the rivers. Nevertheless, he adds, it may be laid down as a general rule that men and women alike wash their hands occasionally, their faces sometimes, but the remainder of their bodies never.

The Coreans may be defined as a smoking people. Both sexes indulge in the soothing weed, but the males are seldom seen without pipes in their mouths. The quality of their tobacco is excellent, but the pipes they use are rude affairs, consisting of metal bowls and mouthpieces joined by bamboo stems. The longer the stem the more exalted the rank of the smoker. A coolie's pipe is as short as an Irishman's dhudeen, but a nobleman uses a tube of such inordinate length that he cannot light it himself. Perforation of the pharynx is by no means an unusual accident when the ever-smoking Corean happens to have a bad fall.

Owing to the similarity of climate all the diseases common in Europe are to be found in the Corean peninsula, but, as Dr. Chastang observes, there are also others which are the lot of imperfectly civilised peoples. Among the latter paludal fevers of every kind (continued, intermittent, and remittent) occupy the first place, being due chiefly to the universal cultivation of rice, but partly, also, to the extensive swamps left after the torrential rains. The inhabitants apparently ignore the source of the infection, for they invariably build their villages on low alluvial soil in order to be near their fields. Quinine, which was introduced a few years ago by the missionaries, is now known and highly esteemed all over the country.

Contrary to the dictum of several writers, Dr. Chastang believes that leprosy is as widespread in Corea as it is in the neighbouring countries of China and Japan. He thinks the reason its occurrence has been overlooked is owing to the fact that, although they abound in the villages, lepers are rarely seen in the capital or its environs. The complaint is generally considered hereditary and non-contagious. Scurvy and beri-beri are frequently to be met with in the southern districts, but also occur more rarely all over the country. In 1894 ten cases of the former and four of the latter disease were observed at Chemulpo. He also mentions an allied affection called by the natives *sutho*, a word which in the vernacular means water and soil. According to Father Dallet this disease is very prevalent among cultivators, being characterised by severe cachexia, prenature senility, paralytic seizures, and the loss of nails, hair, and teeth; but in the opinion of the present observer it does not constitute a special morbid entity.

"Typhoid fever," says Dr. Chastang, "the result at one and the same time of a deplorable hygiene and the employment of water drawn from impure sources, is found everywhere," being most fatal, however, amongst Europeans. Natives as a rule drink boiled rice-water, whereas the missionaries are in the habit of using the first supply that offers, without boiling or even filtering. From the middle of February to the beginning of May constitutes the typhoid fever season, the remainder of the year being for the most part free from its ravages.

During the same period of the year a febrile disease, known to the natives as *Im-pyeng*, or "the pestilence," frequently shows itself in an epidemic form. It is said to be highly infectious and to exact most victims among the poorer classes, the well-to-do when affected generally recovering. This affection is greatly dreaded by the inhabitants, and if an unfortunate patient has no near relative to look after him he is left to his fate or sometimes even driven away into the desert. The disease begins with vague pains, often intense. Then fever sets in, the temperature frequently rising to 106·8° F., with slight matutinal remissions. The popular belief is that unless a copious perspiration appears before the seventh day the result will be fatal, but this superstition is not borne out by rationally-treated hospital cases; at the same time, when free sweating does take place the after-history is pretty sure to be satisfactory. Defervescence is seldom delayed beyond ten days and is always attended by more or less profound muscular and cardiac debility. For this reason Corre proposes to name the affection collapsing typhus.

As may be supposed, when cholera makes its appearance in this unhygienic land the ravages it commits are appalling. Several epidemics have taken place of recent years, but accurate statistics are deficient. In 1895 the mortality must have been enormous. The following fact recorded by Cavendish requires no comment. "A high functionary having died of cholera his corpse before burial was washed in a public fountain, the result being a severe outbreak of the disease."

Of all preventable affections, however, small-pox it is which most terribly devastates the Coreans, and few adults are to be seen whose faces do not exhibit its traces. The people have long practised inoculation by placing variolous pus inside the nostrils; but, as will readily be conceived, the ensuing evils were little, if at all, less deplorable than those wrought by the disease itself. Vaccination was introduced from Japan about ten years since, but is only making slow progress. The natives seem to have an insuperable dread of the arm-to-arm operation. The Coreans being enormous eaters and excessively lazy, dilatation of the stomach, dyspepsia, and hepatic affections are consequently rife among them. Dysentery and diarrhœa also abound, and parasitic diseases, including hæmoptysis from the distoma pulmonale, are widespread.

Every Corean, no matter what his rank may be, is imbued with the belief that a guardian spirit dwells within him, changing his place of residence day by day, and that while any particular portion of his body is thus occupied it would be the acme of impiety to interfere with it medically or surgically. So deeply ingrained is this superstition that the Government actually publishes almanacks in which the various parts thus successively made sacred are specified. The following extract gives the order of occupation for a month: (1) great toe, (2) outside of instep, (3) leg, (4) thigh, (5) hip, (6) hand, (7) inside of instep, (8) forearm, (9) sacrum, (10) spine, (11) nose, (12) forehead, (13) teeth, (14) stomach, (15) whole body, (16) chest, (17) pulse, (18) inner ankle, (19) foot, (20) inside of instep, (21) little finger, (22) outside of instep, (23) foot, (24) fist, (25) heel, (26) chest, (27) knee, (28) coccyx, (29) calf, and (30) heel.

CHESTER MEDICAL SOCIETY.—The annual dinner of this society was held on Tuesday at the Grosvenor Hotel. Dr. King, president for the year, occupied the chair, Mr. Lees being vice-president. The guests included the Rev. H. Grantham (chaplain to the infirmary), Dr. Carter, Dr. Peter Davidson, Dr. R. S. Archer, Dr. Briggs, Dr. Macalister, Mr. Damer Harrisson (all of Liverpool), Mr. Churton, Mr. MacDonald, and Mr. Robert Ould. The members of the society present were Dr. King, Dr. W. M. Dobie, Dr. A. M. Archer, Dr. Weaver, Dr. Brushfield, Mr. Taylor, Dr. T. S. Parry, Mr. Henry Dobie, Dr. Herbert Dobie, Mr. Wright, Dr. Duff, Mr. Emerson, Dr. Cyril Dobie, Mr. Lees, Dr. Elliott, Mr. James Moreton, Mr. T. W. E. Moreton, Dr. Mann, Dr. Hopkins, Mr. Giffen, Dr. Foster, Dr. McCulloch, and Mr. Hamilton.

EXTRACTS FROM THE COURT ROLLS OF THE CITY OF NORWICH RELATING CHIEFLY TO INSTANCES OF STONE IN THE BLADDER.

BY CHARLES WILLIAMS, F.R.C.S. EDIN.

THE Court Rolls of the city of Norwich from about 1600 to 1690 afford conclusive evidence that in the Middle Ages stone in the bladder was by no means an unknown, or even an uncommon, disorder in that city. The complaint appears to have been as prevalent at that time as it has been since then, although its frequency has been much lessened of late years and is likely to be much more so in the future. In the fifteenth century no general hospitals were in existence in the provinces—except one at Canterbury and another at York—into which those who suffered from stone or any other disorder could be admitted, operated upon, and cared for until either a cure or death resulted. So far as Norwich is concerned there is abundant proof to show that those who were so afflicted were not allowed to die without surgical relief being found for them, and it is my purpose to point out how that was carried out by giving from the Rolls such extracts as bear on the subject.

A certain routine was necessary to secure the services of an operator and to ensure his being paid for the operation and subsequent attendance. We may be perfectly certain that the poor in those times were quite unable to pay the expenses incidental to a large operation such as that must have been for stone in the bladder. The principal mode of procedure was for the parent of the afflicted child, or the patient himself if he were old enough, to appear at the Guildhall before the mayor and court of aldermen and state the circumstances of the case before them. It was then ordered that the clergyman of the parish in which the sufferer lived should be directed to obtain the assent of the Lord Bishop to his preaching a sermon and making a collection on behalf of the case. This collection was to be handed to the mayor and aldermen by the swordbearer, or more generally by the aldermen of the ward in which the parish existed, and in whose hands the matter had been placed. A resolution was then passed directing how the sum of money so collected was to be dealt with. The following extracts from the rolls will show how that was effected. In some instances many parishes combined to make up the needful sum, and in some cases several Sundays were necessary, whilst in others a collection was made among the friends of the sufferer. The introduction of the Poor-law Act in 1711 completely altered the above mode of proceeding, indeed, did away with it, as will be noticed. In no instance is the particular kind of operation mentioned, the one in vogue was that known as the apparatus major. or the Marian method, so-called from Marianus, who first published an account of it in 1524. The operation, which was painful in its performance and very fatal in its consequences, was nevertheless considered to be more simple than the apparatus minor[1]—which had been in use from the days of Celsus—and was quickly adopted and practised by all the best surgeons in Europe for nearly 200 years—i.e., until 1697; when the lateral was introduced in Paris as a new operation by Frère Jacques; this was improved by Cheselden in 1726 and soon superseded all others. In addition to those extracts which refer to cases of stone, I have added others which relate to medical matters, and which are both amusing and interesting.

The first entry relating to a case of stone is dated 35 Elizabeth, May 12th, 1593.

"This day Betterys Shieve, the wyfe of John Shieve of Tunstead and Elizabeth Sheringham wer deposed and sworn that John Hubbard of Norwich, surgeon, very artificyally did take from her a very greate stone that was in her bladder on Wednesday in Ester weke in anno 1593 without cutting, and that syns that time she had not been trobled with any payne of the stone."

"14 James, 18 May (1616).—It is ordered that Mr. Mayhew shall have IIII£ for cutting of Clere's child, and of one John Collins of the disease of the stone, whereof 20*s.* for Clere's child is to be paid by parish of St. Stephen, 20*s.* to be presently paid by parish of St. Andrew, and residue paid out of Hospitall upon perfecting the cure. 20*s.* more is appointed to be paid by the parish of St. Andrew, and yt ys ordered the same be equally paid and divided between two women who shall have the keeping of the said children."

"16 James, 16 May (1618).—Thomas, son of Thomas Mawson, is ordered to be cutt of the stone by Miles Mayhew, and he to have for the same £3—viz., 30*s.* in hand and 30*s.* when he shall be perfectly cured, if it so long live."

"16 James, 21 Oct. (1618).—John Ebden, a child of the age of six years, son of Richard Ebden, is to be cutt and cured of the disease of the stone by Miles Mayhew, and he consenteth to take for the same such recompense as this court shall think fit to give him."

"1640, 23 Sept.—Ordered that £3 10*s.* be paid for cutting of John Terry, a poor child of St. George's parish, of the stone, and the doctor hath undertaken to doe the cure for £3, 30*s.* to be payd in hand and 30*s.* more to be payd him when the child is cured, and 10*s.* to be given to the poor child's mother to be layed out in necessaryes for him."

"1655, 27 Feb.—Overseers of St. Margaret laid out £3 4*s.* for the charges of conveying of Garwood's boy to Bury and cutting him of the stone, which is still owing to them. Ordered that it be payd them again at or before Easter."

It appears from this extract that at that time there was no "stone cutter" in Norwich capable of performing the operation for the stone, and it was necessary to send the boy to Bury to be relieved of his disease. At that time there happened to be at Bury an expert lithotomist named Goodrick, for I find in the second volume of the Philosophical Transactions, 1667, the following note: "Mr. Goodrick, surgeon, of Bury St. Edmunds, affirmed that himself cutting a lad of the stone (for which he has a great name), took out thence at one time 96 small stones."

"1655, 16 June.—Daniel Garrard's child in St. Margaret to be cut for the stone, and St. Peter Mancroft to make collection therefore."

This was a rather peremptory order to make for Peter to pay for St. Margaret's child.

"1670, 9 July.—It is ordered that papers be sent to ye ministers of St. Peter of Mancroft, St. Andrew, St. Lawrence, St. George of Tombland, and St. Stephens to exhort them their parishioners to contribute towards the charge of cuttinge the sonne of Wm. Carr of the stone, and also towards the charge of the cure of Robert Hersfield of the same disease, which collection is to be made upon Sunday sen'night, and the money brought to ye court."

"The aldermen of ye Ward of West Wymer are desired to treat with Mr. Gutteridge the chyrurgeon about the cuttinge of William Carr his son."

Mr. Gutteridge was evidently a well-known lithotomist. His name occurs in connexion with the large stone taken after death from the bladder of Mrs. Kaisar of Bury, a blacksmith's wife. It weighed thirty-three ounces and a quarter, and was shown to Charles II. at Newmarket, and is now located in the museum at Cambridge.[2]

"1670, 11 Feb.—There was six pounds paid to Mr. Ald Loikey for the cutting of Carr's boy in St. Margarets, and nine shillings and tenpence three farthings to Mr. Alderman Herne for one Samon of Pockthorpe afflicted with the stone out of the £7 19*s.* 10½*d.* received of several parishes for ye cutting of two boyes of ye stone."

"1670, 3 Augt.—Mr. Swordbearer brought into ye court what money was collected for ye cuttinge of ye 2 boyes of ye stone—viz., in ye parish of St. Lawrence 25*s.* 5*d.*, St. Stephen 22*s.* 1½*d.*, St. Peter Mancroft 52*s.* 11*d.*, St. George Tombland 23*s.* 8*d.*, St. Andrew 35*s.* 9½*d.*, in all seven pounds, 19 shillings, and tenpence three farthings."

"1670, 3 Sep.—It is ordered (if ye Lord Bishop of Norwich shall assent thereto) that a collection be made for Thomas Tuck, the son of Law Tuck of St. Edmund, in all the parishes in the wards beyond the water towards ye charge of cutting him of ye stonne."

"1670, 4 Sep.—50*s.* to be paid to Law Tuck for the cutting his son Thomas of the stonne."

[1] It was also called "cutting on the gripe," because of cutting directly on the stone, fixed by the pressure of the fingers in the anus; a knife and a hook being the only instrument used. The appellation of "apparatus minor" was given to it by Marianus to distinguish it from his method, which he named "apparatus major" on account of the multiplicity of instruments employed.

[2] Were Mr. Gutteridge and Mr. Goodrick the same person? Probably Mr. Goodrick, finding there was no lithotomist in Norwich, migrated to that city, and either changed his name or the scriveners did so for him.

"1671, 26 Aug.—It is desired that the Ald of West Wymer ward doe weight upon the Bishopp to desire his Lordship to recommend ye afflicted condition of a child of Martin Baxter in St. Margaret's who is troubled with the stone, to ye ministers of St. Lawrence, St. Peter Mancroft, St. Gregories, St. Andrew and St. George, Tombland, to encite their pshoners [parishioners] to a voluntary contribution to the cutting him of the stone."

"1671, 16 Sept.—Mr. William Rayly pd 24/10½ collected in St. Andrewes for cutting a boy of ye stone. Mr. Manninge pd 23/9*d.* collected in St. Gregories upon that account which two sums were paid to ye swordbearer. Mem. there was formerly pd to Mr. Swordbearer 50*s.* of St. George Tombland and 20*s.* of St. Peter Mancroft and of Laurence 13*s.*"

"1671, 3 Dec.—That Charles Brook have leave to collect the charity of such persons as will contribute towards the charge of cuttinge his chyld of the stonne."

"1672, 22 May.—Mr. Maior pd out of the hamper [hanaper] 5*s.* to Mr. Alderman Herne towards the cure of Wm. Anger's child of the stone and that ye person that undertake ye cure shall have 10*s.* pd out of ye hamper when ye cure is done."

"1673, 4 Feb.—It is agreed that Mr. Guttridge shall have £5 pd. him upon the cuttinge of Wm. Angus's child of ye stone, if the stone be produced in ys court notwithstandinge ye child shall dye by reason of the cuttinge."

"1674, 15 April.—It is agreed that applications be made by Ald Rich Wenman and Ald Crow to ye Lord Bishop for his lycence to have a collection in ye parishes of St. Gyles, St. Peter of Mancroft, and St. Stephen towards the charge of cutting the sonne of —— Brooke of St. Gyles of the stonne."

"1674, 2 May.—This day Mr. Maior pd. 20*s.* to Wm. Angus's wife of St. James towards the cuttinge of his chyld of the stonne and providinge of lynnen and other things."

"1674, 9 May.—Churchwardens and overseers of all ye parishes in the great ward beyond ye water desired to goe from house to house to receive ye charity of such as will contribute to the chardge of cuttinge ye sonne of Wm. Angus of St. James of the stone."

"1674, 20 May.—It is ordered that Robert Wegg a poore boy in the boyes hospital of the nomination of the towne of Saxthorpe and of the benefaction of Mr. Vaughan being very much afflicted with ye stonne in his bladder be (as is desired by the inhabitants of Saxthorpe mentioned in a letter from Jo Raye, Esq.) cut of the stone by Mr. Guteridge, the charge whereof and of a keeper is to be defrayd at ye public charge and that collection be made to ye purpose."

"1674, 30 May—It is agreed that Mr. Ald Wrench shall be reimbursed 5*l.*, which he shall disburse for the cuttinge of the stonne of ye sonne of Thos. Sharpin of St. Paul out of the monies shall be collected in the severall parishes of the city for cuttinge of several poore children of the stonne."

"1674, 11 July.—Hen Herne, Esq., and Mr. Ald Wrench are desired by this court to attend ye Ld. Bp. of Norwich and pray his allowance for the several ministers of this city to encite their congregationes to a free and charitable contribution towards the severall persons whose chardge hath been greate for to be cut of ye stonne, which contribution is to be gathered by ye officers of ye respective parishes by going from house to house to receive the sd. charity and not to be collected in the churches."

"1674, 24 Augt.—It is ordered that Mr. Swordbearer doe pay unto Henrie Herne, Esq. £5 (out of the money in his hands collected for cutting persons of the stone) for so much by him disbursed for cuttinge Angus's boy of ye stonne."

"1675, 25 Feb.—It is agreed that young Mr. Gutridge shall have 40*s.* for the insisition or extraction of a stone out of the gland of the penis of John Johnson of St. John Sepulcher."

"1675, 2 Oct.—It is agreed that there be a collection (if the Ld. Bp. shall assent thereto) made towards the charge of cuttinge the sonne of Jo Sullman, of the parish of St. Stephen, of the stone, in the parishes of St. Stephen, St. Peter Mancroft, St. James, St. Michael Costany, and St. George Tombland, and which money be collected to be brought up to ye courts."

"1677, 9 Jany.—Collection to be made for cutting of the stone of two poor bodies of St. Martin Palace and St. Michael-at-Thorn."

"1678, 4 Sep.—The sonne of Samuel Joy of St. George Colgate, 4 years and ½ old and much afflicted with ye stonne, is recommended to the charitie of this court and others to have ye charge of cutting him defrayed, and Mr. Guttridge was discoursed about it and contracted with for £4 to be raised by contribution."

"1680, 18 August.—Application to be made to ye Ld. Bp. of Norwich for license to collect ye charity of good Christians towards ye charge of cutting of Jo Wharton and also of Philip Thurton."

"1681, 4 June.—That Robert Bendish, Esq., and Mr Town Clerk doe addresse ye Ld. Bp of Norwich for his license to make a collection in the severall parishes of St. Peter Man., St. Stephen, St. Giles, St. George Timberhill, St. Andrew, and St. Clement for Jo Fitts to be cutt of ye stonne."

"1682, 5 July.—A petition read from Nich Stocking of St. Peter Mancroft that one of his six children is greviously afflicted with ye stone in his bladder, and the said Stocking poore and unable to bear the charge of his cutting and cure. Ald Gardiner and Mr. Town Clerk to attend Rt. Rev. Anthony Sparrow, Lord Bishop of Norwich, to ask leave for a collection at the next and following Lord's daies."

"1682, 26 July.—It is ordered that what monie remaining of ye monie collected for ye cutting of ye sonne of Nich Stocking of ye stonne (Mr. Gutteridge being paid) and ye chylde being dead since cuttinge, be paid by ye swordbearer to ye parents."

In addition to the above I find an entry in the register of St. Peter Mancroft under the date 1703:—"Received by a collection for a person cutt of the stone 01 04 05," and "paid the swordbearer the money for cutting the person of the stone." This extract is interesting as it proves that church collections were made to the year 1703, but probably not much beyond that time, inasmuch as in 1711 a court of guardians was incorporated by Act of Parliament to erect workhouses and regulate the maintenance of the poor of Norwich. The method that had been adopted for so many years was therefore abandoned, and all cases of stone and other diseases were brought under the powers of the Poor-law Act.

INFIRMARY NURSING AND THE NEW SUPERANNUATION ACT.

WE published last week a letter from the chairman of the committee which was mainly instrumental in securing the passing of the Poor-law Officers' Superannuation Act in reference to its bearing on nurses and female servants in that service. Mr. Rutherglen is a gentleman of very great experience in the Poor-law, and his authority in matters of Poor-law is sure to be recognised. But when he approaches the subject of nursing he seems to be not quite so much at home. He argues that the deduction from a nurse's or probationer's salary would not be a deterrent to high-principled young women who join the service with a sense of devotion to duty. Our correspondent forgets that though this high principle may be a motive in some cases, in most instances the object is to earn a living, sometimes for others as well as for themselves. It is this which far more often induces young women to join a none too attractive service and one none too valuable for purposes of education and experience. Moreover, even if it were as he states it would not be justice to trade, as it were, on the high principle of others, and make them contribute to a fund from which they are never likely to receive any benefit, because nine-tenths or more of them only take up workhouse or infirmary duties for a few years by way of experience. They have soon learned all they can in this class of work, and know, as others know also, that if they stay long they contract leisurely habits by reason of the *ennui* and monotony of the life. The best matrons maintain that a period of three or four years is ample for a nurse to stay at an infirmary both in the interests of the nurse herself and in the cause of good nursing. After that time she gets into a set groove and develops an inclination to depute to the semi-able-bodied persons around her work which she ought to do herself. The new Act, it seems to us, would induce her to stay on indefinitely.

However, that the small deduction would prove a deterrent from entering the service is the least of its objections, though the pay is none too liberal, and consequently the supply of good nurses for the service none too plentiful.

What seems to those who are interested in workhouse nursing to be the chief flaw in the Act is the way in which it will affect hereafter nurses who have already reached the age of forty or forty-five years, and who, though they may not suffer from "permanent bodily infirmity," are yet no longer fit to lift helpless patients and discharge duties which require considerable bodily vigour and energy. We are glad to hear, on so high an authority as that of our correspondent, that the Act does not imply that it is absolutely necessary for a nurse to reach the age of sixty or sixty-five years before being superannuated, though there seems to be some doubt on this point; and equally high authorities have expressed the opinion that it would be very difficult to superannuate a nurse or matron before that age. Our correspondent suggests that medical officers anxious to get an efficient staff will be ready to certify to their infirmity and inefficiency. But persons at this time of life are not too ready to recognise their own incapacity or to part with the comfortable routine of the workhouse sick wards, which they find so grateful to their declining years; and it would be difficult for a medical officer, or anyone else, to accomplish the retirement without the nurses' coöperation.

The Act, in our opinion, has been framed without due regard to the interests either of the nurses or the cause of good nursing in the workhouses and infirmaries, and we trust that some step of the kind suggested by our correspondent will be taken next year. It will help to remedy, though it will not remove, the evils to which we have referred, and which will, in all probability, in the course of time result in a serious deterioration of workhouse nursing. Nurses, in our opinion, should have been altogether excluded from the scheme. They form less than one-twentieth of the officers affected by the Act, and their exclusion would in no way have jeopardised it, as our correspondent seems to think. In view of the fact that a larger number of sick persons are housed in the metropolitan infirmaries alone than in all the special and general hospitals of the metropolis put together, this matter calls for the early attention of our legislators.

ELECTION OF DIRECT REPRESENTATIVES TO THE GENERAL MEDICAL COUNCIL.

THE first meeting of Mr. Walter Rivington's committee was held on Oct. 21st at 25, Grosvenor-street, W. Present: Mr. H. W. Allingham in the chair, Mr. T. Holmes, Dr. Robert Barnes, Mr. Gant, Mr. Vincent Bell, Mr. Mansell Moullin, Mr. H. Percy Dunn, Mr. Joseph Smith, Mr. W. G. Dickinson, and Mr. R. B. Anderson. Mr. Rivington was also present.

The resolution of the Association of Fellows constituting the committee with power to add to its number and the letter of the Society of Members conveying the appointment of Mr. Smith and Mr. Dickinson, were brought up. On the motion of Dr. Robert Barnes and Mr. Vincent Bell, Mr. T. Holmes was appointed Chairman of the committee, and took the chair. Dr. Robert Barnes and Mr. Joseph Smith were appointed vice-chairmen, and Mr. R. B. Anderson and Mr. Dickinson honorary secretaries. The executive committee, consisting of these officers and Mr. Mansell Moullin, Mr. H. Percy Dunn, and Mr. Albert S. Morton of Wandsworth was constituted, with power to add to its numbers and to invite accessions to the general committee.

It was resolved to invite professional societies and friends to arrange local meetings and to organise a central meeting at the library of the British Medical Association, or at the rooms of the Royal Medical and Chirurgical Society on Tuesday, Nov. 3rd, at 4 P.M., to be duly announced and advertised. The framing of an appeal by the committee to the electors was referred to the executive committee.

Mr. Joseph Smith said that the appeal ought to contain a special appeal to the Members of the College to support and elect Mr. Rivington, who had consistently and unflinchingly supported their cause and on whom they could thoroughly depend.

It was resolved that, as Mr. Rivington has come forward as a candidate by special invitation, the expense of these measures should be borne by the committee, and that the executive committee be empowered to take measures to obtain necessary financial support. A meeting of the executive committee was arranged for Friday, at 4.30 P.M., at 95, Wimpole-street, W.

A meeting of Dr. F. H. Alderson's supporters was held at Mr. Wallis Mason's house, 1, Osnaburgh-terrace, on Oct. 20th, when Dr. Alderson spoke on the following subjects: (1) amendment of the Medical Acts; (2) increase of direct representatives; (3) registration of midwives; and (4) Medical Aid Associations. The following gentlemen addressed the meeting in favour of Dr. Alderson's candidature:—Mr. Lennox Browne, Mr. Joseph Smith, Dr. Beale, and Dr. Barkwell. Dr. Lewis proposed, and Dr. Barkwell seconded, a resolution "that this meeting thanks Dr. Alderson for his address and promises to support him in every way in its power," which was carried unanimously. A vote of thanks to Mr. Wallis Mason for his conduct in the chair and for the use of his room concluded a successful meeting.

In support of the candidature of Dr. Glover, Dr. Woodcock, and Dr. Drage a meeting of practitioners was held on Wednesday evening last at the residence of Dr. Ford Anderson, 41, Belsize-park, N.W.

ENTRIES AT THE MEDICAL SCHOOLS.

WE print below some figures which approximately show the number of students who have this year chosen the study of medicine as a profession. The analysis of new entries has been compiled from information kindly supplied by the deans and secretaries of the various schools, but the entries are not yet complete, and in some cases we know that the figures only represent an "estimated" number.

ANALYSIS OF NEW ENTRIES.

Name of School.	General students.	Special or occasional students.	Dental students.	Preliminary science students.	Total number of new entries for session 1896-97.
LONDON SCHOOLS.					
St. Bartholomew's Hospital	84	59	—	22	165
Charing-cross Hospital...	24	35	13	2	74
St. George's Hospital	32	4	—	1	37
Guy's Hospital...	76	26	32	21	155
King's College Hospital	24	150*	—	10	184
London Hospital	74	62	—	12	148
St. Mary's Hospital	54	70	1	13	138
Middlesex Hospital	23	40	13	—	76
St. Thomas's Hospital	41	18	—	4	63
University College Hospital	40	46	—	58	144
Westminster Hospital	13	5	2	3	23
School of Medicine for Women... ...	49	2	—	—	51
PROVINCIAL SCHOOLS.					
Cambridge University †					
Oxford University †					
Durham University	33	—	—	—	—
Mason College, Birmingham	22	17	9	8	56
Owens College, Manchester	74	50	19	47	190
Sheffield School of Medicine	9	3	—	2	14
University College, Liverpool	47	23	14	24	108
University College, Bristol †					
University College, Cardiff †					
Yorkshire College, Leeds	23	14	—	23	65

* Including Bacteriology and Public Health. † No return.

THE BATTLE OF THE CLUBS.

THE BATTERSEA AND CLAPHAM MEDICAL SERVICE.

A MEETING of several medical gentlemen practising at Battersea and in its neighbourhood took place on Saturday, the 17th inst., at the residence of Dr. R. H. Barkwell, 299,

Lavender-hill, Clapham Junction, to consider a scheme for establishing in the district of Battersea an institution on lines similar to those adopted by the Wandsworth Medical Aid Society. It has been felt for some time past that an organisation which has so admirably answered its purpose in Wandsworth in meeting the requirements of a large class of patients who cannot be regarded as parish cases, and yet are unable to pay the usual fees of the general practitioner in that district, might with advantage be established in this one, and thus many not affected by existing organisations would be benefited. The chair was occupied by Dr. Barkwell, who explained the object of the proposed society, to be called "The Battersea and Clapham Medical Service," and as two-thirds of the gentlemen present expressed approval of the scheme the society was forthwith inaugurated and duly established, a committee of management of six medical men being chosen—viz., Dr. Terry, Dr. Macrory, Dr. Richards, and Dr. Wallace, together with the treasurer and secretary. The next meeting is fixed for Tuesday, the 27th inst., at 4 P.M., at 299, Lavender-hill, S.W.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Liverpool Urban Sanitary District.—The extension of the boundaries of Liverpool which took place in November, 1895, has had the effect of very materially increasing the size of the city both in acreage and population. The former is now 13,236 in place of 5210 and the population 638,291 in place of 503,967. Another important effect of the extension has been to render the population of Liverpool a far more representative one than was formerly the case, and, as Dr. E. M. Hope observes, it will probably lead to an apparent fall in the death-rate of the city taken as a whole. The population of greater Liverpool is now estimated at 48 per acre, that of the old city being 97 and of the added area 16. The birth-rate of Liverpool during 1895 was 34·5 per 1000, a rate which was only exceeded by five other towns, the rates in the several wards varying from 44·8 to 21·7. The general death-rate was 25·4 per 1000, as against an average in the former city of 25·6 per 1000, the rates ranging from as much as 41·2 per 1000 in Exchange district to 10·4 in Toxteth. Typhus fever, Dr. Hope reports, still lingers in Liverpool, and during 1895 there were 162 cases with 24 deaths. The Liverpool figures as regards the importation of foreign meat are as usual interesting and extremely suggestive. Over 2000 fewer cattle were slaughtered in the city slaughter-houses during 1895 than was the case during 1894, but 1500 more carcases were imported than in the previous year. Similarly in respect of sheep, there was a decrease in the number slaughtered of about 62,000, while the imported carcases were increased by 51,000. Under the heading of smothered and injured cattle it was reported that such beasts are found chiefly among cattle imported from Ireland, the cross channel traffic being more disastrous than the transatlantic voyage.

Birkenhead Urban Sanitary District.—There were 3 cases of typhus fever notified in Birkenhead in 1895 and 1 death resulted. Dr. Sydney Marsden has devised a means for dealing with books from the public library which may be present in houses invaded by infectious disease. A copy of all notifications is sent to the librarian, and he in turn notifies to the medical officer of health such of the invaded houses as contain library books. The books are handed over to the sanitary authority and disposed of by them as they think desirable. In no case are the books returned to the public library, but some of them find their way to the fever hospital. Dr. Marsden gives in his report a short summary of the general conclusions arrived at by the Royal Commission on Tuberculosis, and he points out that in Birkenhead the practice is not to condemn a carcase if the offal alone be affected, but to do so at once if there are any indications that the disease is generalised. Reference is also made by Dr. Marsden to the use for food of the flesh of cows killed in an advanced state of pregnancy. He tells us that many cows are imported into Birkenhead in a stage far advanced towards calving, and that such cows are at once killed, the calves cut out, and the carcases of the cows sold in the usual way. Dr. Marsden thinks it most undesirable that the flesh of these pregnant cows should be used for human food. In discussing the adverse influences affecting the health of the people Dr. Marsden strongly expresses the opinion that female sanitary inspectors would be of the greatest value to the more ignorant classes in giving advice as to the feeding and management and nursing in sickness, to explain the use of disinfectants, &c., when necessary, and generally to impress upon the people the risks attending such diseases as measles, whooping-cough, and diarrhœa.

Blackpool Urban Sanitary District.—This borough still maintains its high infantile mortality, and last year it amounted to 206·3 per 1000 births, the quarterly rates varying from 120 per 1000 in the first quarter to 254 in the third. Dr. Jasper Anderson states that six of the deaths were uncertified, and in one in which an inquest was held the verdict was "Found dead in her bedroom." The notification of "puerperal fever" does not seem to be a success in Blackpool, and Dr. Anderson reports that but one case—a fatal one—was notified during 1895. It is somewhat rare to hear of small-pox being introduced into England from America, but during 1895 a woman from Philadelphia, where the disease was rife, developed small-pox shortly after her arrival in this country, and by the fact of having consulted a druggist, who naturally did not recognise the disease, she was instrumental in conveying it to several other people. In respect of enteric fever Dr. Anderson thinks that much harm is done by insisting that the disease is infectious only through the excreta, and he points out however infection is carried the disease is a great danger to those brought in contact with it.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6583 births and 3381 deaths were registered during the week ending Oct. 17th. The annual rate of mortality in these towns, which had increased in the four preceding weeks from 15·1 to 16·7 per 1000, declined again last week to 16·3. In London the rate was 15·7 per 1000, while it averaged 16·6 in the thirty-two provincial towns. The lowest rates in these towns were 9·4 in Leicester, 9·7 in Croydon, 11·4 in Wolverhampton, and 11·9 in Huddersfield; the highest rates were 19·8 in Hull. 20·1 in Liverpool, 21·8 in Sheffield, and 23·8 in Bolton. The 3381 deaths included 351 which were referred to the principal zymotic diseases, against 386 and 361 in the two preceding weeks; of these, 92 resulted from diphtheria, 67 from diarrhœa, 55 from "fever" (principally enteric), 48 from scarlet fever, 46 from measles, 43 from whooping-cough, and not one from small-pox. The lowest death-rates from these diseases were recorded in Bristol, Derby, Burnley, and Huddersfield; and the highest rates in Sheffield, Plymouth, Gateshead, and Hull. The greatest mortality from measles occurred in Hull, Gateshead, and Plymouth; from scarlet fever in Birkenhead; from whooping-cough in Swansea; from "fever" in Sunderland; and from diarrhœa in Oldham, Blackburn, and Preston. The 92 deaths from diphtheria included 66 in London, 6 in West Ham, and 3 in Birmingham. No fatal case of small-pox was registered in any of the thirty-three towns. There were 2 cases of small-pox under treatment in the Metropolitan Asylum Hospitals on Saturday last, the 17th inst., against numbers declining from 16 to 4 at the end of the six preceding weeks; no new cases were admitted during the week. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 4073, against 3951, 4020, and 4105 at the end of the three preceding weeks; 372 new cases were admitted during the week, against 466, 454, and 424 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had increased in the five preceding weeks from 118 to 218, further rose last week to 238, but were 76 below the corrected average. The causes of 48, or 1·4 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Bradford, Leeds, Newcastle-upon-Tyne, and in fourteen other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Salford, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the three preceding weeks from 14·4 to 17·7 per 1000, further rose to 17·9 during the week ending Oct. 17th, and was 1·6 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 13·5 in Greenock and 14·2 in Aberdeen to 18·8 in Perth and 20·3 in Dundee. The 523 deaths in these towns included 15 which were referred to diarrhœa, 10 to scarlet fever, 7 to whooping-cough, 5 to measles, 3 to diphtheria, and 1 to "fever"; in all, 41 deaths resulted from these principal zymotic diseases, against 79 and 57 in the two preceding weeks. These 41 deaths were equal to an annual rate of 1·4 per 1000, which was slightly below the mean rate last week from the same diseases in the thirty-three large English towns. The 15 fatal cases of diarrhœa showed a further decline from the numbers recorded in recent weeks, and included 8 in Glasgow. The deaths referred to scarlet fever, which had steadily declined from 10 to 5 in the four preceding weeks, rose again to 10 last week, of which 3 occurred in Glasgow, 3 in Aberdeen, and 2 in Edinburgh. The 7 fatal cases of whooping-cough corresponded with the number in the preceding week, and included 4 in Glasgow and 3 in Edinburgh. The deaths from measles, which had increased from 7 to 15 in the four preceding weeks, declined to 5 last week, of which 3 occurred in Glasgow. The 3 fatal cases of diphtheria corresponded with the number recorded in the preceding week, and included 2 in Paisley. The deaths referred to diseases of the respiratory organs in these towns, which had been 76 and 87 in the two preceding weeks, further rose to 116 last week, and exceeded by 24 the number in the corresponding period of last year. The causes of 22, or more than 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had increased in the three preceding weeks from 15·5 to 23·6 per 1000, declined again to 22·1 during the week ending Oct. 17th. During the past three weeks of the current quarter the death-rate in the city has averaged 21·9 per 1000, the rate during the same period being 15·6 in London and 15·5 in Edinburgh. The 148 deaths registered in Dublin during the week under notice showed a decline of 10 from the number in the preceding week, and included 17 which were referred to the principal zymotic diseases, against 14 and 21 in the two preceding weeks; of these, 8 resulted from "fever" (principally enteric), 4 from diarrhœa, 3 from whooping-cough, 2 from scarlet fever, and not one either from small-pox, measles, or diphtheria. These 17 deaths were equal to an annual rate of 2·5 per 1000, the zymotic death-rate during the same period being 1·6 in London and 1·1 in Edinburgh. The deaths referred to different forms of "fever," which had been 6 in each of the two preceding weeks, rose to 8 last week. The 3 fatal cases of whooping-cough showed a further increase upon the numbers recorded in recent weeks. The deaths from scarlet fever, which had been 3 and 4 in the two preceding weeks, declined again to 2 last week. The 148 deaths in Dublin last week included 28 of infants under one year of age, and 31 of persons aged upwards of sixty years; the deaths of infants showed a further increase upon those recorded in recent weeks, while those of elderly persons showed a decline. Seven inquest cases and 7 deaths from violence were registered; and 49, or nearly one-third, of the deaths occurred in public institutions. The causes of 10, or nearly 7 per cent, of the deaths in the city last week were not certified.

THE SERVICES.

ARMY MEDICAL STAFF.

SURGEON-COLONEL MICHAEL COGAN, Principal Medical Officer of the Belfast District, has been selected for service in India. Surgeon-Major J. Harran has embarked for India. Surgeon-Colonel W. S. M. Price will shortly proceed to Bengal. Surgeon-Major C. R. Tyrrell has assumed Medical Charge of Women and Children, Stanhope Lines, Aldershot.

Brigade-Surgeon-Lieutenant-Colonel Henry Thomas Brown, M.D., retires on retired pay. Surgeon-Lieutenant-Colonel William Percy Bridges retires on retired pay.

INDIA AND THE INDIAN MEDICAL SERVICES.

The following transfers are ordered:—Surgeon-Major Armstrong, A.M.S., from Sind District to Poona District; Surgeon-Captain Jones, A.M.S., from Mhow District to Sind District; Surgeon-Captain Faichnie, A.M.S., from Nagpore District to Bombay District; and Surgeon-Captain Anderson, A.M.S., from Bombay District to Nagpore District; Surgeon-Major Adams, A.M.S., and Surgeon-Captain French, A.M.S., on arrival from England, are posted to Aden District.

The Queen has approved of the following promotion in the Indian Medical Service:—To be Surgeon-Major-General: Surgeon-Colonel Henry Cook, M.D., Bombay Establishment. The *London Gazette*.

NAVAL MEDICAL SERVICE.

Surgeons: James P. Willis, M.B., to the *Victory*; John Grant, M.B., to be lent for three months' study at Edinburgh University and Infirmary; William R. Center, M.B., to be lent to the *Cambridge*; Cornelius Bradley, M.D., to the *Inflexible*; Charles H. Upham to the *Defiance*; Norman L. Richards to Plymouth Hospital; and H. H. Gill, M.B., to be lent to the *Jaseur* on coming as tender to the *Vernon*.

VOLUNTEER CORPS.

Artillery: 1st Lancashire: Surgeon-Lieutenant J. A. Cornett to be Surgeon-Captain.

CADET BATTALIONS.

1st Cadet Battalion the King's Royal Rifle Corps: Brigade-Surgeon-Lieutenant-Colonel J. H. Reynolds, V.C., M.B., retired, to be Acting Surgeon.

THE GENERAL REPORT AND ANNUAL STATISTICS OF THE ARMY VETERINARY DEPARTMENT.

The report and statistics of the Army Veterinary Department for the year ending March 31st, 1896, are contained in a pamphlet of about fifty pages drawn up by the Director-General (Veterinary-Colonel Lambert, C.B.). The total number of animals consisted of 13,446 troop horses, 1844 chargers, and 147 mules, as compared with 13,192 troop horses, 1915 chargers, and 178 mules at the same date last year. The inefficiency, accident, and mortality lists show a decrease on the preceding year, whilst it is extremely gratifying to note that glanders is still non-existent. Special notice is made of this, the last cases of glanders amongst the horses of the British Army having occurred in October, 1888, and the officers of the Army Veterinary Department deserve congratulations on their success in preventing the re-appearance of a disease which in former years proved such a scourge to the horses and a danger to the men. In the Army Veterinary School lectures were separately given and certificates granted to both officers and men; in the latter case particularly the farriers who attended appear to have displayed great earnestness and enthusiasm in their studies. At the Army Vaccine Institute sufficient lymph was cultivated during the year for 44,295 people, enough for the vaccination of 43,459 persons being issued. With reference to the latter the results returned to the Institute were very satisfactory. Since the opening of the institute in January, 1889, lymph has been prepared for 290,596 inoculations. An instance of the excellent management of the institute was illustrated by the fact that "in November great pressure was experienced owing to urgent requisitions being received for lymph to vaccinate the whole of the troops proceeding to Ashanti, including lymph for 450 sent to Gibraltar to vaccinate the West Yorkshire Regiment and lymph for 500 sent to Sierra Leone to vaccinate the 2nd West India Regiment. In addition, lymph for 2000 persons was sent with the expedition to Cape Coast Castle. The total amount sent out during the month was sufficient for 7003 persons. The requisitions were complied with by return of post without any difficulty." Colonel Lambert acknowledges his indebtedness to Veterinary-Major Seaward Longhurst and Veterinary-Captain Butler for work done in connexion with both the school and the institute. The diseases, accidents, &c., occurring amongst the animals, both at home and abroad, are tabulated and summarised in such a manner as to enable the reader to see readily which are the most prevalent amongst Army horses and mules and the percentage of returns.

THE THREATENED FAMINE IN INDIA.

It seems that famine is inevitable in India unless sufficient rain falls within the affected areas. Over most of the Oudh, a large portion of the North-Western Provinces, parts of the

Central Provinces and of the Punjab, and some districts of Burma unirrigated autumn crops are seriously damaged. The condition and prospects of crops in Bombay also cause anxiety. Notwithstanding that India in respect of irrigation and the greatly increased area of cultivation, in railways and means of transit, and in prospects of importation of food-supplies from other countries has undergone great improvement since 1876-77, the present prospect is a very serious one and is being anxiously watched by all Government officials. The people are extremely poor, and a higher price of food means much inevitable sickness and mortality. The finances of the Indian Government are very different from what they were many years ago, as everybody knows, owing to the depreciation of silver and other causes.

DEVONPORT.

Lord Wolseley arrived at Plymouth on the 14th inst., accompanied by Sir Redvers Buller, Major-General Salmond, R.E., and other officers, and on the following day inspected the troops in garrison on the Devonport Lines. Lord Wolseley, with General Sir F. Forestier-Walker and their respective staffs, afterwards inspected the station hospital, where they were received by Surgeon-Major-General Hamilton, the principal medical officer of the district.

PRESENTATION TO SURGEON-CAPTAIN R. R. SLEMAN.

At the stretcher-bearers class of the Volunteer Ambulance School of Instruction held at the Headquarters of the London Rifle Brigade on Oct. 19th, Surgeon-Captain R. R. Sleman, "Artists" R.V., was presented with a handsome "tantalus" stand by the N.C.O.'s of the instructing staff, the gift forming, we understand, a wedding present.

LEAN'S ROYAL NAVY LIST.

The October issue of this excellent book of reference for all who are interested in naval matters has just been issued and is well up to date. The editor is to be congratulated on the care with which the enormous mass of information has been dealt with. Messrs. Witherby and Co., 326, High Holborn, and 4, Newman's-court, Cornhill, are the publishers.

DEATHS IN THE SERVICES.

Surgeon-Colonel Thomas Ffrench-Mullen, M.D. Q.U.I., Bengal Medical Service, at St. Mary's Hospital on the 12th inst., aged fifty-five years. He entered the service in October, 1866, and became Brigade-Surgeon-Lieutenant-Colonel in September, 1891.

According to the *Army and Navy Gazette* the home service for the executive ranks of the Army Medical Staff now runs to about two years or a little more after a foreign tour—six years for India and five for the Mediterranean and West Indies—and exchanges to avoid an Indian tour range from £4 to £500.

We understand that a committee composed of Surgeon-Colonel MacDonagh Cuffe, C.B., Principal Medical Officer, Rawul Pindi District, as president, an officer of the Army Medical Staff, and a selected quartermaster as members, will shortly assemble at Murree to consider what alterations should be effected in the existing scale of field-service rations for British troops.

DIPHTHERIA IN LONDON.—The excessive number of deaths registered as occurring from diphtheria in London in the week ended Oct. 3rd—namely, 69—gave place to 52 in the succeeding week, a number, however, still in excess of the decennial average. Last week witnessed a return to a greater excess, the deaths registered having been 66, against an average of 48 for the forty-second week of the period 1886-95. All save 4 of the 66 deaths were of persons aged from one to twenty years, and were widely distributed over the metropolis. Still as many as 10 belonged to Camberwell, 9 to Lewisham, 6 to Islington, and 4 each to Hackney and Newington sanitary areas. Hence, just half the total deaths were of persons resident in five districts in London. The admissions to hospital last week were 105, against 101, 98, and 112 in earlier weeks, and 803 patients suffering from the disease remained under treatment on Saturday last. Large as is the amount of fatal diphtheria in London proper it is equally so relatively in the suburbs, as many as 21 deaths from the disease having been registered in Greater London last week, including 7 in West Ham and 3 in Tottenham districts. Thus there were 87 deaths in one week in a population estimated at 6,178,376 persons, as compared with 20 in the remainder of the thirty-three great towns (that is, excluding London, Croydon, and West Ham), with their estimated population of 6,045,713 persons.

Correspondence.

"Audi alteram partem."

THE CONSTITUTION OF THE COUNCIL OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

To the Editors of THE LANCET.

SIRS,—I am sure that you and your readers have as little wish as I have that I should enter on a discussion of the eleven—why not the round dozen?—objections which the Association of Fellows of the Royal College of Surgeons have framed in reply to an article of mine which appeared in your issue of June 27th. I must, however, be allowed to make a few remarks. *In limine*, I cannot but express my great surprise that this article, having been allowed to remain unnoticed by the Association until it was reprinted and distributed by the Manchester Society of Fellows of the Royal College of Surgeons as fairly representing the views held by the latter on the question at issue, the Council of the former should have disregarded the anonymity of the *communiqué* and have openly attacked me by name as the head and front of the offending, and pilloried me as one who takes no interest in the daily life of the general practitioner.

To make this action of the Manchester Society the occasion for saying that "it is greatly to be regretted that there is any member of the Council who has so little sympathy with the practitioners of surgery," &c., and for using other expressions of like import is scarcely what might be expected from a body of gentlemen. Such expressions are not arguments, but, taking them as they are, I suspect that the very opposite would express more truly the exact state of affairs. The committee of the Association openly admits its ignorance of the interests of the general practitioner and requires an interpreter of them on the Council. While such ignorance is to be deplored, still I think I may ask its Members, as men of intelligence, to give some concrete examples of those questions they refer to which might legitimately be considered by the Council, but which at present are not so considered because of the absence of "direct representatives" of the Members. For my own part I admit no such ignorance. While believing that the interests of Members and Fellows are identical, I may also say (though it has nothing in the world to do with my duties as a member of Council) that I know what general practice is, what 15*s.* midwifery is, what it is to be dependent on the "collector" to keep the pot boiling, and that I am deeply interested in "the struggles and difficulties of surgical practice." I trust the Members of the Association will not *very* lightly regard me because of making such admissions. I trust also that I may be excused for saying that I regard the "Reply" as a loose and inconsequential document, putting words into my mouth I never uttered, drawing inferences from insufficient premisses, and devolving on the Council duties and responsibilities which no charter ever contemplated. It is a phantasm of a disordered brain, and the committee are the ministers of a rapidly-decaying faith.

I am, Sirs, yours obediently,

Manchester, Oct. 19th, 1896. JAS. HARDIE.

To the Editors of THE LANCET.

SIRS,—The circular from the Council to the Fellows of the Royal College of Surgeons of England may be described as divided into (*a*) statements of fact regarding the recent history of the College, and (*b*) arguments *pro* and *con.* the representation of Members. These latter ought to be widely known, and are thus stated in the circular:—

"The grounds upon which the Members base their claims to be directly represented on the Council are to be found in a statement made to the Council by the 'Society of Members' on Sept. 20th, 1895, and, as the 'Society' have requested the Council to give an account of them in their elucidatory statement, they may be summarised as follows, namely:—

"1. The Members constitute the bulk of the corporation, and have an inherent right to a share in the government of the College.

"2. It would be for the benefit of the College if the Council were representative of the whole corporation, instead of only a part of it; and it would then occupy an infinitely stronger position in dealing, not only with all public questions, but with its own Members.

"3. The College ought to be a political institution as well as a scientific and educational one, and ought to obtain powers to protect the interest of the Members against unqualified forms of practice.

"4. The College is dependent on its Members for the greater part of its annual income."

In answer to the above statements it should be observed:

"1. That since the year 1843 all Members have been admitted under charters and by-laws which vest in the Fellows the right of electing the Council and of being eligible to sit on the Council; and Mr. Justice Romer decided in January, 1892, that these charters and by-laws are valid. Members, therefore, have no right, legal or inherent, to a share in the government of the College.

"2. That though elected by the Fellows, the Council is representative of the whole corporation, inasmuch as the purpose for which the College was instituted, as set forth in the charter of its incorporation, is that 'it is of great consequence to the commonweal of this kingdom that the art and science of surgery should be duly promoted'; and the strength and efficiency of the College depend upon the thoroughness with which this purpose is carried out.

"3. That while the Council exercises all the powers which it possesses to protect the Fellows and Members of the College in the practice of their profession as surgeons, it is not practicable, even if it were desirable, for this College, being only one of many licensing bodies, to undertake the suppression of unqualified practice in surgery, such duties pertaining rather to some central authority, such as the General Medical Council, or some voluntary intra-professional organisation.

"4. That after defraying the necessary costs of examining, including the cost of the Examination Hall, the profits derived from the Membership Examinations do not constitute one-half of the income of the College, and barely suffice to pay one-half of the expenditure of the College in Lincoln's Inn Fields and the laboratories on the Embankment."

Will you allow me to offer the following replies to the arguments put forward by the Council, and, for reasons already explained to you, to do so anonymously?

"1. Members do not, I believe, claim a legal right to a share in the government of the College; they wish a new Charter to be applied for in order to create a legal right, which they are quite aware does not at present exist. Mr. Justice Romer's decision was, however, not given on this point, but solely on the right of meeting in the College. The Members *do* claim an inherent right to share in the election of the Council, and they base this claim on the Charter of 1800, which indisputably vests the whole property of the College in them (see p. xix. of the College Calendar).

"2. That the Council represents the Members is a mere unsupported statement which the latter emphatically deny; the purpose for which the College was instituted is admitted on all hands, and has nothing whatever to do with the question of representation. Is it contended that the Members take no part in 'the promotion of the art and science of surgery?'

"3. It is perfectly practicable for the College to obtain powers under a new Charter (if it does not already possess them under By-law XV.) to protect its own Members; it has power under the by-laws to punish them, it should have the correlative power of supporting them. The General Medical Council intends to refer offences against professional ethics to the respective licensing bodies, of which this is one of the most important. It is only adding insult to injury to refer the members to 'some voluntary organisation,' which can by no possibility have any legal powers at all.

"4. This is a very disingenuous statement. After defraying the costs of examination the *profits* derived from the Membership Examination do not constitute one-half the *income* of the College.' Probably not; it would be a very paying concern in which the profits exceeded half the income—i.e., paid over 50 per cent."

The point to be considered is, Where would the College be without the Members' fees or even without half or quarter of them? In a recent report the Council stated that a falling off of £595 (out of £16,000 odd) in these fees "calls for the most serious consideration." The late Sir John Erichsen, who was a well-known opponent of the Members' claims, said some years ago "that the fees paid by the Members sufficed not only to pay the Board and Court of Examiners, to buy the diploma stamps, to defray at least two-thirds of the working expenses of the College, mainly due to the requirements of the examinations, and nearly the whole cost of maintaining the museum and the library, but to leave a balance of £6000, out of which pensions and various other collegiate expenses are paid. Out of each diploma fee of 20 guineas, 6 or 7 guineas went into the coffers of the College." That these arguments represent the views of the whole Council, or even the majority of that body, is notoriously not the case. Why, then, was the reactionary section allowed to send them forth as such?

I am, Sirs, faithfully yours,

Oct. 19th, 1896. A MEMBER.

THE MALARIA PARASITE.

To the Editors of THE LANCET.

SIRS,—Dr. Patrick Manson in his Goulstonian Lectures on the malaria microbe, published in THE LANCET in March last, brought forward the results of certain experiments made by Surgeon-Major Ross in support of his theory that the malarial microbe passed a necessary phase of its existence in the mosquito before being again introduced into the human body. Surgeon-Major Ross examined human blood from the stomach of mosquitos fed on the blood of a malarious patient in whom crescents were abundant, and he found that crescents after being half an hour inside the stomach of a mosquito were all converted into spherical bodies or flagellate bodies. Dr. Manson considers that these results strongly support his theory. Living in a district where malaria is at certain seasons very rife, though mosquitos scarce, I have been unable to make any experiments with blood from the mosquito's stomach, but have by a very simple process observed occurring what Surgeon-Major Ross found occurred after blood had been half an hour inside the mosquito's stomach—i.e., the conversion of all crescents into spheres or flagellates.

Lately, while examining a specimen of blood rich in crescents, I in accordance with a suggestion made to me by Dr. George Thin, placed a drop of distilled water on the edge of the cover of a preparation of the fresh blood. In the ordinary preparations of this blood I had found numbers of crescents, but very few spherical bodies, and only one or two flagellates. On examining the specimen so treated after a few minutes I found no crescents, but numbers of spheres with more or less movable pigment and also a large number of flagellated bodies. I therefore prepared a few specimens by placing a minute drop of distilled water on a slide and inverting on it a cover charged with a minute drop of blood. I examined this immediately and found that the crescents almost at once became spherical. Their pigment granules, previously clustered in a bunch, became scattered and movable. After a short interval the pigment granules became more and more active, then violently agitated, and soon flagella made their appearance lashing about in the most lively manner. In less than five minutes there was not a single crescent to be seen, whilst I had beautifully displayed to view large numbers of flagellate organisms, to find a single one of which I have often sought in vain in blood fairly rich in crescents. The flagellate manifestation lasted for half an hour or more, and the specimens when examined three or four hours later only contained spheres with still pigment or clusters of free pigment granules. I also observed that red corpuscles containing small parasites retained their normal colour amongst the decolourised corpuscles not containing parasites, and the parasites themselves became swollen and globular and more distinct, with their pigment granules more visible than formerly. What bearing these phenomena may have on Dr. Manson's theory I cannot venture to say, but only express the opinion that they are due to the imbibition of water by the crescent, and that this may take place as well in the stomach of the mosquito as in any other place where blood containing crescents is mixed with a comparatively inert fluid. Anyone desirous of seeing flagellated organisms can thus very soon see them if he only will mix blood containing crescents with a minute quantity of water before making his examination.—I am, Sirs, yours faithfully,

ROBERT J. MARSHALL, M.D. GLASG.

Rio Tinto, Spain, Oct. 9th, 1896.

GALL-STONES AND CANCER.

To the Editors of THE LANCET.

SIRS,—Ames[1] having reported the presence of gall-stones in over 90 per cent. of all cases of primary cancer of the gall-bladder, and other observers having met with the association nearly as frequently, pathologists are naturally seeking an explanation of this remarkable conjunction. The one I have to offer suggests some interesting considerations. I have convinced myself that in all parts of the body the outbreak of cancer is invariably preceded by non-cancerous hyperplastic changes in the epithelia of the affected part. Such lesions are seldom limited to the precise starting-point of the cancerous disease. This implies that the abnormal cellular activity, which at a given point culminates in cancer, affects also in a less degree the adjacent epithelia of the region for a considerable extent, so that there is regional as well as local predisposition. The object I now have in view is to point out that just as in cancer of the buccal cavity these pre-cancerous changes manifest themselves by ichthyosis, &c., so in the gall-bladder their outward and visible sign is the biliary calculus. There can be no doubt but that morbid changes in the mucosa of the gall-bladder and biliary passages are the inevitable antecedents of these concoctions. The lining epithelial cells manifest departure from the normal hyperplastic lesions predominating. "Desquamative cholitis," the

[1] Johns Hopkins Hospital Bulletin, vol. v., No. 41, p. 74.

term usually applied to this condition, conveys a fairly good idea of the nature of the change, although not of its etiology. The nucleus of the gall-stone, which is at first soft, is formed from the aggregation of these prematurely shed and abnormally evolved cells on which the hard substances of the calculus are subsequently deposited. This view of the origin of the associated lesions appears to me more in accord with the known facts than that which ascribes the origin of the cancer to the "irritation" caused by the presence of the calculus. I have looked through Dr. Simpson's admirable essay "On the Origin of Gall-stones in the Insane," but am surprised to find no reference made as to the condition of the mucosa of the biliary passages. I think it is impossible to insist too strongly upon the fact that gall-stones are determined by *local*, rather than by general, derangements.

With regard to the relative frequency of gall-stones in the cancerous, of 281 cancer necropsies analysed by me in which no hepatic or gastric cases are included, gall-stones were present in 18, or in 6·4 per cent.; 181 were females, with gall-stones in 14, or in 7·7 per cent.; and 100 were males, with gall-stones in 4 cases. Of 777 necropsies—mostly on adults—at the Manchester Infirmary, Dr. Brockbank found gall-stones in 34, or in 4·4 per cent.; of 228 necropsies on females they were met with in 18, or in 7·9 per cent.; and of 542 necropsies on males in 16, or in 2·9 per cent. It would thus appear that the cancerous, like the tuberculous and the insane, are more prone to gall-stones than the generality of the population of corresponding age and sex, although in a less degree. Of 44 female breast cancer necropsies there were gall-stones in 7, or in 16 per cent.; of 79 uterine cancer necropsies gall-stones were present in 5, or in 6·3 per cent.; and in 52 necropsies for cancer of the tongue and mouth in males gall-stones were met with in but a single case.

I am, Sirs, yours truly,

Preston, Oct. 17th, 1896. W. ROGER WILLIAMS.

PUBLIC VACCINATORS AND THE POOR-LAW SUPERANNUATION ACT.

To the Editors of THE LANCET.

SIRS,—In Rutherglen's work on the Poor-law Superannuation Act, 1896, it is considered that public vaccinators do not come within the provisions of the Act, as they are not officers of the guardians, but serve under contract, which contract may be determined on either side by giving twenty-eight days' notice. Do you consider the above construction of the Act to be correct? If it should turn out to be so it will, in my opinion, be very hard upon a large number of public officials who are appointed by, and act under, the guardians, and all of whom, I believe, to be under the same contract as regard remuneration, and who will, I understand, be excluded simply because their official title (public vaccinators) has been omitted under the head of officers.

I am, Sirs, yours faithfully,

H. CULLIFORD HOPKINS,

Oct. 19th, 1896. Public Vaccinator, Bath.

THE DIFFICULTY OF OBTAINING INFORMATION FROM THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—A few days ago I applied to the Registrar of the General Medical Council to ascertain if a certain gentleman was qualified because I could not find his name in the Register, and I thought it possible it had been added since its publication. I was anxious to know whether it would be correct to associate myself with him in consultation or otherwise, for although it is generally held that we are blameless for meeting a man who professes to be qualified it has always seemed to me to be a duty to the profession and the public to ascertain the genuineness of such qualifications. The reply I received was an "inquiry form," and I could not quite make out why I should be put to the unnecessary trouble of re-writing my queries on a form until I perceived the following footnote:—

"The Registrar may supply information in regard to registration provided only that he should deem it consistent with his duty to do so. In case the Registrar should think fit to supply the required information he will forward it on receiving from an applicant the above form, duly filled up, together with the prescribed inquiry fee of 2*s.* 6*d.* The information thus furnished may be used as evidence, in accordance with the subjoined section of the Medical Act (1886)."

To answer me would not have involved so much trouble as sending the form. It appears, then, that this wealthy body, which expends vast sums of money on its meetings, whose most important duty is to regulate the behaviour of the profession, refuses to answer a question which will assist in improving that behaviour unless it is applied for a second time on a form and accompanied by half-a-crown. I maintain that when the General Medical Council thus throws obstacles in the way of our obtaining information it thwarts the detection of offenders. It is their duty to afford every facility to anyone who will take the trouble to ask for information and not to discourage the few who are willing to write for guidance; in any case the paltry fee of half-a-crown should not prevent them answering a question which may assist in the prevention of the abuses they profess to abhor.

Now that the election is in the air perhaps some of the would-be representatives will take this matter up.

I am, Sirs, yours faithfully,

Kidderminster, Oct. 20th, 1896. J. LIONEL STRETTON.

DO WE WANT A MEDICAL TRADES-UNION?

To the Editors of THE LANCET.

SIRS,—In view of the coming election to the General Medical Council we have heard and seen so much of politics that an outsider might imagine the science of medicine was complete and that we were only awaiting the settlement of various social questions to bring about our millennium. When wind and tide are so strong one can but sail with it; at present every ship sails as if safety could only be reached in the harbour of unionism; though even in that, to us, unknown refuge there may be rocks and shoals and heavy harbour dues—breezes there are sure to be, worse than the risks of the open sea. Personally I have no faith whatever in the efficacy of unionism to bring about the millennium of the medical profession; at any rate, not if it be at all like that trades-unionism which we see around us in other walks of life, and from what one hears and reads there appears little difference. Perhaps by a process of words unionism may be compared to *esprit de corps* or patriotism; as well might cant be called religion. Practically a trades-unionist's action is about as often guided by a sense of *esprit de corps* as a convict's good behaviour is by a love of doing his duty.

A trades-union is a number of labour units combined so as to be able to deal on equal terms with capital; when capital holds all the power and labour is helpless against it this is excellent and properly worked may be of great benefit to labour. But are the conditions the same in our profession, and do we need the same help? If we had it, would it benefit us in the same way, and would not medical unionism be liable to the same abuses as trades-unionism? I think the conditions are with us very different. We pride ourselves on being a learned and a generous profession and on having individual independence, although all are actuated by a common desire to do our utmost for the good of mankind. And we profess to influence and guide the public, not by the force of unanimity or the persuasion of numbers, but by the intrinsic value of our work, the truth of our teaching, and the influence of each individual. It would be contrary to tradition to look for help to the weight and force of combined members, and it would be a damaging admission of weakness; our loss of independence would soon tell on the whole body, and such is the practical influence of unionism on the unit that we should be in danger of becoming like the children in a barrack school. There is no doubt a strong and deepening prejudice in this country against trades-unions, and if there are detected in us their taint and aroma we shall lose collectively in public esteem more than will be compensated for by any individual material gain.

Supposing we had a complete medical union would it not be liable to the same abuses as present-day trades-unions, whatever might be its rules and regulations? In the first place, many of those who possessed any independence of character would only become members under compulsion and for the sake of peace in the profession and not from any belief in the advantages to follow or from any regard for the association; and owing to the not altogether to be regretted apathy of the profession in medico-political matters an energetic and noisy minority might very probably obtain the power to rule the majority, and with that petty spirit which usually dominates trades-union movements they might tyrannise

over the profession and the public. We should have another illustration of the fable of King Log and King Stork. We might rid ourselves of the present government, but if we did we might have that democracy that ends in despotism. If, nevertheless, it be necessary to have a medical union it must be unanimous and it must be perfectly voluntary. The body, to be enduring and strong, must have its strength from within; in and between each member there must exist that force that holds together the atoms in an iron rod, they must not merely be bound together like the wires in a bundle. We shall only form a powerful and an honourable union when the several districts are fitted for it and when the individual members of the profession are themselves men of honour; no rules can make men professionally honourable any more than laws can make people sober. Doubtless, if a man is a member of any society it becomes more difficult for him to sin against it, but if the unclean are ostracised they will not attempt to cleanse themselves. The harder the wind blew the tighter the man buttoned up his coat and the more he tried to wrap himself up from it, but when the sun shone warm he undid his coat and even took it off. I believe we shall do more good for our profession and render a union more easily formed by decentralising our efforts, by making every district work and act for itself. The smaller the district the greater will be the proportion of the member to the society, the more interest will he feel in it, and the more will he feel its influence. As a member only of an immense society he is apt to feel a nonentity and a corresponding lack of responsibility to the society. We must also look to our schools to inculcate principles of professional morality, and I believe they are doing so, and every individual must be made to feel that it is his personal duty to uphold the honour and maintain the well-being of the profession; this end may be helped by encouraging and making popular all those associations, societies, and meetings, both scientific and social, which tend to produce a feeling of *esprit de corps*. I have, I am sorry to see, taken up much more space than I intended; my excuse must be an honest fear lest in the thought that union is strength we might forget that the battle is not always to the strong.

I am, Sirs, your obedient servant,

Freshford, Oct. 20th, 1896. CHAS. E. S. FLEMMING.

"HOSPITAL ABUSE."

To the Editors of THE LANCET.

SIRS,—At a meeting of the Provisional Committee held in London on the 15th inst. I was directed to write and thank you for your articles on Hospital Abuse in the columns of THE LANCET. I am, Sirs, yours faithfully,

T. GARRETT HORDER,
Hon. Sec. Hospital Reform Association.

Windsor-place, Cardiff, Oct. 16th, 1896.

"ELECTION OF DIRECT REPRESENTATIVES TO THE GENERAL MEDICAL COUNCIL."

To the Editors of THE LANCET.

SIRS,—In the *Medical Times and Hospital Gazette* of Oct. 17th there appeared a notice of a meeting held at Dr. Barkwell's house, 299, Lavender-hill, on Tuesday, Oct. 6th. The meeting was called for the purpose of hearing an address from Dr. Alderson and had no reference whatever to other candidates. The resolution, which was proposed by Dr. Richards, seconded by Dr. Horton, and almost unanimously carried, was in these words: "This meeting thanks Dr. Alderson for his address and pledges itself to give him every support in its power." The notice, then, as it appears in the *Medical Times and Hospital Gazette* is inaccurate and calculated to mislead.

I am, Sirs, yours faithfully,

JAMES SAVAGE, } Hon.
F. HERBERT ALDERSON, } Secs.

London, Oct. 19th, 1896.

To the Editors of THE LANCET.

SIRS,—At the next meeting of the Gainsborough and District Medico-Ethical Society, to be held on the 28th inst., the chief thing on the agenda will be to discuss the addresses, &c., of the various candidates for the General Medical Council and, if possible, select three candidates for whom we shall all vote. May I be allowed through your valuable paper to ask each candidate to send me a few copies of his address together with any other intelligence he may wish conveyed to our meeting?

I am, Sirs, faithfully yours,

JOHN E. S. PASSMORE, Hon. Sec.

Gainsborough, Oct. 17th, 1896.

"ST. ANDREWS UNIVERSITY MEDICAL SCHOOL."

To the Editors of THE LANCET.

SIRS,—Mr. Mark Anderson's letter in THE LANCET of Oct. 17th. has not modified my opinion of his proposal to compulsorily retire assistants to professors after three years' service. The position of each assistant is already subject to annual review by the corresponding professor and the University court, and with this repeated opportunity for the removal of any man proving himself to be in any sense undesirable it seems fatuous to ask the University to bind itself by an inflexible rule, as a result of which the services and abilities of the most diligent and competent of assistants must needs be lost to the University. At the present moment the University has full liberty to retain those who serve it well and to get rid of the lazy and incompetent. Mr. Anderson's desire is to limit this freedom of action.

I am, Sirs, yours faithfully,

Oct. 19th, 1896. YOUR CORRESPONDENT.

A POINT IN THE NOTIFICATION OF DISEASE.

To the Editors of THE LANCET.

SIRS,—Will you kindly give your opinion on the following case in the next issue of THE LANCET? A tradesman receives a servantmaid into his house who in forty-eight hours develops scarlet fever; he (the tradesman) wishes to remove the girl to her own home, a distance of four miles, in a thickly populated neighbourhood. The medical man in attendance shirks the responsibility by putting the onus of the case on the medical officer of health. This is the question—Is the latter keeping within the law by not consenting to the removal? Apologising for troubling you,

I am, Sirs, yours faithfully,

Oct. 19th, 1896. E. G.

*** The case is not free from difficulty, and the main difficulty would appear to be due to the fact that the local sanitary authority have failed to provide for their district means of isolation for such cases. Under such circumstances the tradesman has a perfect right to remove the case from his house where his wares, his customers, and his family might otherwise be subject to the risk of infection. But he must do this in a way that will not injure the patient or lead to risk of infection to others. Thus, if the patient's home is a proper place for her reception and the usual care in removal—such as is observed in removal of cases to hospital—is taken, the removal may be made without contravention of law or propriety. These are the essential points which the medical officer of health should have in view and on which his decision should be based.—ED. L.

MISQUOTATIONS.

To the Editors of THE LANCET.

SIRS,—Although the subject on which I venture to address you is not a medical one, it is of great interest and of some importance to all who take part in controversies in the public press. In the last paragraph of his letter on "The New Poor-law Officers' Superannuation Act," published last week in THE LANCET, Mr. John H. Rutherglen writes: "I know from experience that a 'man convinced against his will remains of the same opinion still.'" If this be so, Mr. Rutherglen must be able to see further through a brick wall than can most of us. For my part, I cannot understand the possibility of a man (or woman) being "convinced" "against his (or her) will" and remaining "of the same

opinion still." Samuel Butler, in "Hudibras," wrote no such rubbish, but said—

"He that complies against his will
Is of his own opinion still,"

which is very good sense indeed. It is surely a great pity that writers do not take the trouble to verify their quotations. A misquotation does not strengthen a man's arguments, but rather leads the critical reader to judge the strength of the literary chain by the rotten link of a false quotation. But, alas, there seems just now a general tendency towards sloppiness in English literature. The always ungrammatical and very often impossible "try and" do something or other is rampant in the newspapers, and "phenomenal" is made to represent something very different from its actual meaning. If you can find a corner for this little growl you will oblige a member of the profession who is not oblivious of the phrase—

Oct. 19th, 1896. LITERA SCRIPTA MANET.

"THE DEATH OF THE ARCHBISHOP OF CANTERBURY."

To the Editors of THE LANCET.

SIRS,—Your sympathetic annotation on the death of the Archbishop of Canterbury contained one line with which I am sure he would not have agreed. You say, "Contrary to the Litany which he loved so well, his translation was an 'improvisamors.'" What we pray for in the Litany is not against "sudden death" in the point of time, but an "unprepared death." The former is not an evil to be deprecated, the latter is too terrible for contemplation.

I am, Sirs, yours faithfully,

Oct. 16th, 1896. A PHYSICIAN.

*** We are quite aware of this, but all the same the words "sudden death" in the Litany are translated from the "subitanea et improvisa morte" of the Sarum use, and surely the Archbishop's death was unforeseen.—ED. L.

"THE LEGALITY OF BRITISH QUALIFICATIONS ABROAD."

To the Editors of THE LANCET.

SIRS,—I enclose some translations I have made of a circular given me at the medical school here, which may be of use in informing your readers of the exact status of things in France in regard to foreign practitioners. I also enclose a translation of the circular of July 21st, 1896, which gives the new measures decided upon by the Ministre de l'Instruction Publique, about which so much has been written.

From all that I can gather supplemented by my own experience these measures are intended only to apply to young men who wish to graduate in medicine in France. They will have, in future, to pass all their preliminary examinations in France and no allowance will be made to them for studies made abroad. Qualified men will be received upon the same terms as heretofore. This is borne out by my own experience. My demand to be admitted to the examinations for the State diploma, although formulated before the measures referred to were promulgated, was granted afterwards. What the requirements actually are will differ probably in each individual case, but as a general rule the applicant will have to produce a certificate of examination in classical studies and one in scientific studies. I believe, also, that it is regarded as absolutely indispensable that he possess a degree of M.D.

In all cases the examinations will *all* have to be passed.

I am, Sirs, yours truly,

Paris, Oct. 10th, 1896. W. C. H.

"FACULTY OF MEDICINE OF PARIS.

"NOTICE.

"For the information of foreigners the Baccalauréat ès Lettres and the Baccalauréat ès Sciences restreint are required of all aspirants to the degree of Doctor of Medicine. Foreigners who have not pursued their classical studies in France and those who have commenced the study of medicine in their own countries can obtain before their entry into the Faculty of Medicine the equivalent of the Baccalauréats and of their medical studies. For this purpose they must address a request to M. le Ministre de l'Instruction Publique, enclosing the diplomas and certificates which they have emanating from the foreign universities where they have studied, as well as all documents of such a nature as will establish the duration of their classical and medical studies. All the documents produced must be translated into French. Foreign Doctors of Medicine can obtain the French diploma by submitting to all of the examinations and accomplishing the formalities referred to above." The rest of the circular refers to the fees payable, amounting to 1540 francs, and gives a list of the examinations, which are: 1. Chemistry, Physics, and Natural Science. 2. Anatomy and Physiology. 3. Operative Surgery and Pathology. 4. Therapeutics, Hygiene, and Legal Medicine. 5. Clinical Medicine, Midwifery, and Surgery. After which the candidate has to submit and defend a thesis. The examinations are all oral, and I am given to understand that the examiners are generally very lenient with foreigners and that a perfect acquaintance with the French language is by no means indispensable. The final part of the circular, referring to what is done in case the certificates of preliminary education are found insufficient, I have not translated, since the sum of it is that in such a case the person must submit again to these examinations."

"CIRCULAR OF 21ST OF JULY, 1896.

"MONSIEUR LE RECTEUR,—I have the honour to bring to your knowledge the measures which I have decided upon relating to the subject of the foreign medical students. The services of our Faculties of Medicine will continue to remain wide open and without condition to such foreign doctors who, having finished their studies in their respective countries, may come to France to perfect themselves in this or that branch of their art. In regard, however, to those young persons, every year more numerous, who come from abroad to France for the purpose of commencing and continuing there their medical studies, it is necessary to distinguish among them those who have the intention of establishing themselves in France to practise medicine there and those who, when they have terminated their studies, expect to return to their native countries. For the first of these it is right that they be restricted to the same conditions as our native students. They will not, therefore, receive the State diploma conferring upon them the right to practise in France unless at the time of their first inscription they produce the French diploma of Bachelier de l'Enseignement Classique Lettres-Philosophie and the certificate of the examination in physical and natural sciences, and chemistry. As for the others—who are, by the way, in the majority—the dispensation of the French Baccalauréat will, as heretofore, continue to be accorded to them upon even more liberal terms; but the diploma which they may receive at the end of the regular course of studies will not confer upon them the right to practise medicine in France. Notice of this must be given to them at the moment of their inscription in the secretary's office. The requests for dispensations made by students of this last category will have to be addressed to me as heretofore. The present measures have no retractive effect and do not apply to foreign students inscribed in the universities in 1895-6. The equivalent of the Baccalauréat will be continued to be accorded in view of the study of medicine to students natives of those countries with which we have treaties to this effect.

"Yours, &c."

"OCCUPATION FOR WOMEN."

To the Editors of THE LANCET.

SIRS,—"M.D., M.R.C.P." should order at any bookseller's "The Civil Service Year-Book," published by Sheppard and St. John at 2s., and containing minute details of all Government posts. Also he should write to the Secretary, Civil Service Commission, London, S.W., for official regulations. The Commissioners are always very obliging in giving information. The best positions are those of female clerks. The salaries are from £65 to £450, attendance seven hours daily, four weeks' holiday yearly, and a pension of two-thirds their salary. The examinations are only in (1) arithmetic, (2) handwriting, (3) spelling, (4) composition, (5) geography, and (6) history; but the competition, although varying, is usually keen. This is undoubtedly the very best form of employment for ladies. I am afraid "Constant Reader," writing in THE LANCET of Oct. 17th, though acquainted with one or two isolated cases of lucrative employment for ladies, has not a real business knowledge of the present conditions under which women are employed, and he could not very well have this, being presumably a professional man. I know a lady related to a medical man and intimately acquainted with the professional terms, and I hear from her and many others that it is absolutely unavailing to expect definite employment of this kind. Here and there a medical man wants to write a book, and that done the lady secretary is no longer needed. Every lady can be sure of 30s. weekly in business houses for shorthand and typewriting. Some rise to £2 and £3, but rarely. This applies to all other specialised business knowledge for women—it undoubtedly proves remunerative when a situation can be found that requires it. Here and there one hears of large salaries easily earned, but if a lady is tempted to try for the same thing—well, she spends a considerable period in becoming proficient, and then may gain a salary or may not—probably not. Then she has to turn to the ordinary work to which I have referred. Bookkeeping situations are hard to obtain and usually poorly paid.—I am, Sirs, yours faithfully,

Rectory-grove, Clapham, S.W., Oct. 12th, 1896. H. L.

THE THIRD INTERNATIONAL CONGRESS FOR THE PROTECTION OF INFANTS.

(FROM OUR SPECIAL CORRESPONDENT.)

YESTERDAY morning saw the business of the Congress in full swing after its formal inauguration by the Commendatore Ernesto Masi, representing the Prefect. Its President is the Baron Scander-Levi, and each of its eight sections are presided over by well-known names in the world of social philanthropy, the majority of them medical men, of whom I may mention Dr. Nagy and Dr. Gallez of Buda-Pest, Dr. Queirolo (Professor of Clinical Medicine in the University of Pisa), and the Signori Minelli and E. Conti, Members of the Parliament of Italy, while Great Britain is represented by Mr. Lloyd Baker, and France by Professor Bourilly.

On one *fait accompli* the Congress may with good reason be congratulated—namely, the coign of vantage on which (thanks to the "Roussel law," so called from its French originator and promoter) its practical work now largely bases itself as regards the great initial difficulty, that of substituting State for parental control. By this law (an able report, drawn up for the benefit of the Congress by the Deputy T. Minelli, informs us) every French child under two years which is entrusted to paid outsiders for nursing, weaning, or custody is put under the surveillance of the prefects, assisted by a departmental committee, and eventually by local commissioners, of whom two must be mothers of families. Attached to the Ministry of the Interior there is organised a superior committee for the protection of children and a statistical department, which every year publishes an exhaustive report on infantile mortality. Where necessary the prefects can nominate medical men to visit and examine the children entrusted to outsiders. The "Roussel law," moreover, has immediate control of all persons who for money received take charge of one or more children for nursing, weaning, or custody, as it also controls the intermediaries or the offices concerned in the "placing out" of these children, refusal to submit to such control (medical inspection and such like) being punishable by a fine of from five to fifteen francs and, in aggravated cases, by imprisonment not exceeding five days. Every person "placing out" a child is bound to declare the fact to the office of the commune in which the child is born or resides, and to hand over to the nurse from the official register a notification of the child's birth. Every person receiving a child must be provided with certificates attesting civil condition and aptitude for nursing or taking charge of children; while every woman accepting a situation as nurse in a family must also have a certificate certifying whether or no her last child is alive, whether the infant has completed the seventh month, or whether the child is receiving the breast from another. Every person taking a child to nurse or keep in charge must within three days make declaration thereof to the Commune in which he or she resides, a declaration renewable on every change of residence, and the withdrawal from custody or the death of the child must also be reported to the communal office. In every commune there is a special registrar for such declarations, which are communicated by the office of the commune where the child is born to that where the nurse resides, and *vice versâ*. The pay of the nurse is entered among the "privileged credits" in terms of Art. 2101 of the Civil Code. The expenses incurred for the application of the "Roussel law" are borne one half by the state and the other half by the departments.

The excellent results of this law, particularly in lessening infant-mortality, are well and widely known; but the law itself required supplementing, not only to rescue children "intentionally abandoned" or to safeguard the hygiene of those not thus "abandoned," but to improve their mental growth, to clear the moral atmosphere in which they live, and to counteract the various causes and influences that determine them to crime. These causes are mainly vagabondage, begging under the guise of selling lucifer matches, and, in the words of Signor Minelli, "the infamous farming-out of little white slaves compelled every evening to bring back a fixed sum to their avaricious *exploiteurs*." In Southern Europe (in Italy, *par excellence*) the precocious genius of the child soon acquires an aptitude and a liking for irregular and law-defying subsistence, till at twenty years the child has grown into an accomplished and well-nigh incorrigible malefactor. Such delinquency may scandalise those "cheap Catos" of the social world who, having never known want themselves, are blind to the temptations of "fortune's disinherited ones," and who simply call for more exemplary police law as the one remedy. But M. Roussel saw another and a better way of dealing with the phenomenon. To his law of 1874 he added another, which in its successive stages, from 1882 to 1889, when it was entered on the Statute Book, marks an epoch in the rehabilitation of abandoned, neglected, or maltreated infancy mainly by the restrictions it puts on the parental authority and the substitution for this of State surveillance and control. The statistically verified facts accumulated by M. Roussel and his coadjutors and their culmination in the law of 1889 are among the most precious material in the hands of the "Protectors of Infants in Congress assembled," and from the vantage ground thus gained the Geneva Congress was able to advance to still further and more specialised reforms in behalf of the appealing child. Florence in turn is registering yet another stage onward in the same philanthropic march, and if the more backward civilisation of the Latin countries—particularly in southern Europe—extends and complicates her task it also brings to the field more enthusiastic and more experienced workers, reinforced, be it added, by the practice and precept of a native medical school, which, as the creator of "criminal anthropology," has concentrated a quite unique combination of biological and social observations on the task of rehabilitating the degenerate or unfortunate child.

Yesterday afternoon's sitting, under the presidency of Signor Minelli, was signalised by a discussion on the initiation of a "General Propaganda for the Benefit of Infants." Dr. Giulio Feket of Nagyiunanys, Judge of the Criminal Court of Budapest (reporter for Hungary), having spoken of the international movement and the International Congresses, advocated the publication of a "bulletin" for the of the cause of children, and illustrated the uses to which promotion the Press could be applied with the same object. Practical suggestions of a similar nature were introduced by Dr. Umberto Loreta, who proposed a fusion of all the associations and institutions in behalf of infants into a national association. This, as concentrating much effort and resource hitherto scattered, commended itself to the Congress, which, after hearing a well-written paper by the Baroness Malcomes on the Best Modes of Teaching and Influencing the Child, rose for the day.

Florence, Oct. 6th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The David Lewis Northern Hospital.

THE foundation-stone of the new Northern Hospital, which in future is to be called the David Lewis Northern Hospital, was laid yesterday by the Countess of Derby, as Lady Mayoress, in the presence of a large and distinguished company. Elaborate preparations had been made for the stone-laying ceremony, the stone being suspended from a gay-coloured tripod by block and tackle, the rope from which was let down through the flooring and manœuvred by workmen out of sight. Seats were provided for 1200 ladies and gentlemen in amphitheatre fashion. The temporary building was neatly and tastefully decorated for the occasion. The Lady Mayoress was accompanied by her husband, the Earl of Derby, the Lord Bishop, Mr. B. W. Levy, chairman of the David Lewis Trust, Mrs. B. W. Levy, and others. The assembly took place in the old hospital, where the Lady Mayoress was presented with a bouquet by Miss Eva Barr, daughter of Dr. James Barr, one of the hospital physicians, on behalf of the hospital committee, whilst Mrs. B. W. Levy received another bouquet from Miss M. E. Graves from the same source. On arrival at the new site, which faces Leeds-street, the principal guests assembled in the vicinity of the foundation-stone. Mr. B. W. Levy, who undertook the chairmanship of the present gathering, requested Lady Derby to lay the foundation-stone of the David Lewis Northern Hospital, and said that when the trust was estab ished it was the intention to benefit the working-classes of Liverpool and Manchester. He and those

associated with him felt that no work could be undertaken with greater or more lasting benefit than the provision of a hospital adapted in all its details for the beneficent work it had to carry on. When her ladyship was kind enough to accede to the request to perform the opening ceremony the committee of the hospital and the trustees congratulated themselves upon having made so good a beginning. The fact that Lord Derby was president of the hospital, and the long connexion of the Stanley family with the city of Liverpool, made her ladyship's presence signally felicitous and appropriate. Her ladyship then laid the foundation-stone, declaring it "well and truly laid," an intimation which was heralded musically from the police band and by great cheering on the part of the assemblage. The Bishop then consecrated the stone and prayed for a blessing on the new hospital. Subsequently to this interesting ceremony a luncheon was given by the trustees at the Adelphi Hotel, Mr. B. W. Levy presiding over some 200 guests, including the Lord Mayor and Lady Mayoress and MRS. B. W. Levy. All the speakers were loud in their praises of the generosity and large-heartedness of the late Mr. David Lewis, the generous donor of the new hospital. A complete description of the new hospital and nurses' home appeared in THE LANCET of May 2nd.

Colour-blindness and the Mercantile Marine.

Mr. T. H. Bickerton recently read a paper on the above subject in the rooms of the Mercantile Marine Association under the presidency of the Lord Mayor. The paper, which involved a criticism of the new rules of the Board of Trade, contained, amongst other arguments, that the eyesight and colour-blind tests become compulsory only when a man enters for a second mate's certificate, instead of being applied, as they should be, at the threshold of a sailor's career. Mr. Bickerton calls this the first act of the cruelty, perpetrated years ago, when rules and regulations on this subject were first instituted, and has been persisted in even to the present time with mule-like obstinacy and callousness. These new tests came into force on Sept. 1st, 1894. The colour-vision of seamen is now tested by Holmgren's wools, the method it superseded being the haphazard one of asking a man to name the colours of lights and cards. Mr. Bickerton stated that he proposed the following suggestions to the President of the Board of Trade, which, in his opinion, will, if adopted, remedy the present cruel state of affairs. No boy or man should be allowed to enter the mercantile service until his form-vision and colour-vision have been adequately tested and proved to be sufficient. Before allowing the seaman to sign articles he should be asked for his certificate as to eyesight. Colour-blindness and defective vision in apprentices already bound by indenture should be in itself a reason for breaking the engagement. The method of testing colour-blindness or any defect in vision must be improved (*a*) by being carried out by competent medical examiners; and (*b*) in a room specially set apart for this purpose and fitted with artificial light of a standard which would supply equal illuminating power all the year round and obviate the varying and unsatisfactory results of tests applied at one time in strongest light at midsummer and perhaps at another during the fogs of midwinter. Lord Derby, in reply to a vote of thanks to him for taking the chair on the occasion, remarked that Mr. Bickerton had been too severe on the Board of Trade, of which he was formerly a member, and asked the gentlemen present not to think that the Board of Trade had a pleasure in persecuting these officers whom, in the exercise of their duty, they reported upon as colour-blind and, therefore, unfit to hold a seafaring certificate. His lordship hoped that Mr. Bickerton would forgive him for saying that the lecture would have had a little more force if some of the expressions could have been weeded out of it. Speaking from personal experience he said that the matters which came before the Board of Trade were looked at in the fairest spirit, and very frequently when there was a doubt the benefit of that doubt was, as far as possible, given to the individual. After all, the subject was one of very great difficulty, and had become of late years, and with crowded channels, one of primary importance. He had no doubt that the Board of Trade, when their attention was further directed to it, would consider very carefully what had been said and see that, as far as possible, qualified examiners should be checked by other qualified examiners, who in their turn should be checked and aided by those various tests at which science had arrived for the purpose of obtaining absolute certainty as far as was practicable. At the same time it seemed to him to be laying down a rather hard rule to say that no boy or man should be allowed to enter the mercantile marine service unless his eyesight had been tested, there being many positions afloat in which a man was not called upon to use his eyes for the purpose of seeing lights and to which colour-blindness might be utterly and entirely immaterial. On the other hand, the shipping papers take a different view of the action of the Board of Trade on this important subject. The *Shipping Gazette and Lloyd's List*, in its leading article of Oct. 13th, makes use of the following expressions: "Whether the Board of Trade will ever do the right thing in regard to the question of seamen's eyesight is hard to tell. Certainly it is only after unwearied persistence that a partial recognition of the importance of the subject has been secured. As matters stand at present the whole question of seamen's sight tests is sadly in need of common-sense revision." And again in another paragraph the same paper states "that it was to be expected that Mr. Bickerton, in his paper on 'Colour Blindness and Eyesight in the Mercantile Marine,' should pass some forcible criticisms upon the action of the Board of Trade. Not only are such criticisms richly deserved, but they are also unanswerable." "It was perhaps a little unfortunate that the meeting at which such a strong case was made out was presided over by the Earl of Derby, an ex-President of the Board of Trade. However much such humane and common-sense arguments might commend themselves, the Lord Mayor of Liverpool could hardly endorse them without being disloyal, in a sense, to the permanent officials over whom he once presided." The *Syren*, another well-known shipping paper, also fully agrees with Mr. Bickerton's remarks in the following terms: "We have always regarded the Board of Trade—apart from its President, who, by the way, is a mere accident of the department—as being without a body to be kicked or a soul to be saved; and we think that Mr. Bickerton is to be complimented upon having drawn a spark of fire from one who, *ex-officio*, undertook an impossible task—the defence of the Board of Trade for their failure to safeguard our mercantile marine from the danger of colour-blind seamen, or to act in a humane manner over the administration of the tests they have decided to institute."

New School for Blind Children.

A public meeting in connexion with the new school for blind children proposed to be erected at Wavertree was held at the town hall on Oct. 15th under the chairmanship of Mr. R. D. Holt, in the absence of the Lord Mayor. The Liverpool School for the Blind, the oldest institution of the kind in the kingdom, which dates from the year 1791, has hitherto devoted its energies chiefly to the training of adults; but in order to extend its sphere of usefulness to the needs of blind children also an enlargement of the present building has become an absolute necessity. Thanks to the generosity of an anonymous donor, who has presented to the committee the site of the old Wavertree Hall, consisting of three and a-half acres, that body will be enabled to build the new schools in a more suitable neighbourhood. An anonymous donor has offered £20,000 towards the erection of new buildings, and with such a noble example of munificence the citizens of Liverpool, with their usual generosity in matters of public charity, will not be behindhand in supplementing this noble gift to the desired amount.

Liverpool Medical Club.

Dr. Samuel Woodcock, Dr. L. Drage, and Mr. George Brown, candidates for election to the General Medical Council, read papers before the members of this club and their friends on the 9th, 14th, and 20th inst. respectively. The candidates were invited to give their views on the various matters of interest bearing on the approaching contest, but were informed beforehand that no discussion thereon would be allowed, as the club is desirous of holding aloof from any expression of opinion on the merits of any particular candidate. Votes of thanks to the above gentlemen for their interesting addresses were cordially agreed to. Dr. T. M. Dolan has also been invited to address the club on the 27th inst.

Oct. 20th.

FOOTBALL CASUALTY. — During a match at Chepstow, on the 17th inst., a player, a youth aged nineteen years received injuries from which he died on Monday last.

WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The University College of South Wales and Monmouthshire.

THE half-yearly meeting of the governors of the University College of South Wales and Monmouthshire was held at the College on Oct. 14th, Lord Tredegar, the President, occupying the chair. Principal Viriamu Jones made a statement in reference to the building fund. It had been hoped that the £20,000 required would have been subscribed by the end of July, but when the last week of that month arrived they were £1800 short, but by the aid of some friends they then collected within £260 of the requisite sum. The Principal added that in conjunction with another gentleman he had entered into a guarantee bond for the balance of £260, and they were then able to assure the Drapers' Company that the £20,000 had been secured by the necessary time; but he desired to point out that what they at first had hoped to raise was £30,000, so as to be able to go to the Government and say that they were entitled to the £10,000 promised, and he hoped that the individual governors would make an effort to raise this extra amount. It was stated at the meeting that the College would be very hard pressed to provide accommodation for the increasing number of students.

The University of Wales.

At the meeting of the Court of the Welsh University held last week it was stated that the first graduate of the University by examination was a lady (Miss Maria Dawson, B.Sc.). A vote of thanks was passed with acclamation to Dr. Isambard Owen for his services in connexion with the ceremony of the installation of the Chancellor of the university.

The Cardiff Infirmary.

At a meeting of the committee of the Cardiff Infirmary held on Oct. 14th it was stated that the late Mr. T. J. Jones, druggist, of Cardiff, had left the whole of his property to his widow for life, but at her death the residue was then to revert to the infirmary, and a ward was to be founded, to be named "Jones, the Chemist Ward." Dr. Edwards, the chairman, reported that the Marquess of Bute had made an offer to contribute £1000 towards the debt on the building of the infirmary, providing that a similar sum was raised by public subscription before Dec. 31st next, irrespectively of the bazaar which is to be held next month, the arrangements for which are progressing very satisfactorily. The object is to clear off a debt of over £7000 on the new buildings completed last year. Unfortunately they have not yet been opened, although much needed, owing to the want of funds. Lady Windsor will receive purses on behalf of the infirmary on the opening day and it is to be hoped that the bazaar will be a financial success, so that the managing committee may open the new blocks before the end of the present year.

The Barton Regis (Bristol) Board of Guardians and Vaccination.

At the meeting of the Barton Regis board of guardians held on Oct. 9th the chairman moved that the vaccination defaulters be informed that unless the necessary certificate of vaccination was received by the guardians within a fortnight an order would be issued for them to be summoned. If, however, they had a conscientious conviction that the vaccination of their children was calculated to do them injury, and furnished a declaration to that effect within fourteen days on a form supplied, which must be signed by them and witnessed by a magistrate, the guardians would probably entertain their objection. This was carried unanimously. The declaration is as follows: "I, ——, do solemnly and sincerely declare that I have a conscientious objection to the vaccination of my child ————, as I fear that vaccination may be the means of seriously injuring its health and constitution. I further solemnly and sincerely declare that I have not been induced to make this declaration through the solicitation of any person or persons not belonging to my own family." This was, the chairman explained, to be taken, made, and subscribed before a magistrate, and dated. At the same meeting the clerk read the quarterly report of the vaccination officer, which showed that there were seventy-six defaulters. It was decided that the prosecutions should take place subject to the resolution passed.

The late Mr. William Henry Krause Pollock, L.R.C.S. Irel.

The death occurred in Bristol, from acute phthisis, on Oct. 6th, of Mr. William Henry Krause Pollock, at the residence of his father, the Rev. W. Pollock, chaplain to the Bristol Blind Asylum. Mr. Pollock was educated at Clifton College, and was intended for the medical profession, but although he took the L.R.C.S. of Ireland he practised but little. In 1878 he began to show signs of his talent for chess, and from 1883 was one of the most famous of modern English chess players. In 1889 he played in the New York tournament, and his game there with Weiss of Vienna is generally considered to be one of the best ever played. The deceased resided in America and Canada for some years, and represented the latter country in the Hastings tournament of last year. Mr. Pollock was unmarried and at the time of his death was thirty-seven years of age.

Rejection of the Infectious Diseases Notification Act at Yeovil.

At the October monthly meeting of the Yeovil town council the question of adopting the Infectious Diseases Notification Act was discussed, but a resolution in its favour was lost by seven votes to five.

The Lady Guardian and the Medical Officer.

At the meeting of the Devonport board of guardians, held on Oct. 16th, the committee reported having considered the complaint of a lady guardian against one of the medical officers, Mr. J. E. Wilson, L.R.C.P. and S. Edin. She had complained that the medical man had not given a pauper patient an order for nourishing food. The committee stated that they had gone fully into the matter and had unanimously come to the conclusion that the charges against the medical officer were not established; on the contrary, they found that he had treated the patient and her family well professionally and also with great kindness. They were further of opinion that it was very unwise for any member of the board to endeavour to actively interfere with the medical officers in their treatment of cases, and that in case of any complaint arising it should be addressed to officers through the board. Mr. Wilson is to be congratulated upon the result of the inquiry, and it is to be hoped that in the future the lady guardian will be more discreet.

Death from an Overdose of Chloral Hydrate.

A woman aged thirty-seven years died in Bristol recently from poisoning by chloral hydrate. She suffered from insomnia and had finished a mixture containing three drachms of chloral between Oct. 2nd and Oct. 4th. On Oct. 4th she took another bottle with 135 grains of the drug, and died the same evening before medical aid arrived. At the inquest held on Oct. 6th a medical witness stated that death was due to chloral taken in excess, and the jury returned a verdict accordingly.

Oct. 20th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Opening of Medical Classes at the University of Edinburgh.

THE classes in the Faculty of Medicine at the University were opened last week for the winter session. In opening the class of medicine Professor Sir Thomas Grainger Stewart spoke of the value of the Roentgen rays for purposes of diagnosis in internal medicine. He then went on to speak of the management of inebriates and emphasised the importance of further legislation in regard to them. He urged that the Legislature should make it possible that a class of those persons might be dealt with as were the insane. In many cases the only chance for a patient thus affected lay in removing him from temptation for a long period of time. He also referred to the work of the Royal Commission on Vaccination which had recently been reported. He expected that shortly there would be an agitation throughout the country for the repeal of the Vaccination Law, whereas, in his opinion, the law ought rather to be made more stringent. Professor Chiene, in opening his class of surgery, spoke of progress in surgery and more especially of the work that had been done in that direction by Sir Joseph Lister. He also referred to the reception which Sir J. Lister had received at the annual meeting of the British Association last month. In the class of physiology Professor Rutherford spoke on the Physiology of Fatigue. After mentioning the causes of mental fatigue and describing cellular changes

in that condition he dealt with the relation between mental and muscular fatigue, showing that while brain fatigue lessened muscular power gentle muscular exercise was of use in hastening recovery from fatigue to the mind.

Glasgow University.

The session opened on the 15th inst., and this year there was no introductory address either at Gilmorehill or Queen Margaret College. The early days of the session are to be more or less disturbed by the rectorial election, Sir John Gorst, M.P., having completed his term of office. The Unionist candidate is the Right Hon. Joseph Chamberlain, M.P., whilst Mr. Augustine Birrell, M.P., is nominated by the Liberals. The contest promises to be both short and sharp, as the polling day is fixed for the 31st inst. Mr. Wm. Smart, M.A., LL.D., D.Phil., has been elected as the first occupant of the Adam Smith chair of Political Economy. Mr. Smart has for some years been lecturer on the subject in Queen Margaret College, and has distinguished himself both as a teacher and writer. His appointment is likely to be very popular. The endowment of the chair is worth £600 per annum. Mr. Alex. Ferguson, M.A., M.B., has been appointed assistant to the professor of pathology in the new pathological institute with special reference to bacteriology.

New Pathological Institute at Glasgow.

The new institute which has been erected in the grounds of the Western Infirmary was formally opened on the 14th inst., a large number of medical men and others taking the opportunity offered by the invitation of the directors to visit and inspect the building. The institute is a handsome addition to the infirmary, and every care has been taken to ensure its adequacy for its purpose. It comprises a large lecture-room, post-mortem laboratory, practical class-room, chemical and bacteriological laboratories, photographic room, and private working rooms in which original researches may be conducted, as well as a large and commodious museum. The total expenditure has exceeded £15,000, and it is believed that the institute may fairly claim to be equal to anything found in this country. Professor Joseph Coats has given unceasing attention to the planning and practical details of the building, and his numerous pupils may now congratulate him upon his attainment of arrangement and facilities worthy of his work and teaching. At the inaugural ceremony Professor Gairdner delivered an address on the relation of the study of pathology to the art of medicine and the public health. Speeches were also delivered by Professor Coats, Professor Boyce (Liverpool), Dr. Leith (Edinburgh), Mr. J. G. A. Baird, M.P., and Mr. J. Wilson, M.P. The chairman, Preceptor Dickson, in the course of his remarks, acknowledged the receipt of a sum of £5000 from the Bellahouston Trustees, and intimated that the directors had determined to proceed at once with the erection of a new out-door department, also that as soon as they could obtain the necessary funds they would add a new wing to the infirmary so as to increase the accommodation by 200 beds.

Another Public Park for Glasgow.

The Parks Committee of the town council have decided to recommend the purchase of about eighty-two acres of Tollcross estate, offered to them at the price of £20,000. The park, though not very large, will be one of the finest in Glasgow. It is well-wooded and presents various phases of landscape. In situation it adjoins the eastern boundary of the city, and will provide for the wants of the east-end of the city, the inhabitants of which have at present no open space nearer than the Alexandra Park and Glasgow Green.

Bearer Company, Clyde Volunteer Brigade.

This recently formed company passed their first inspection on the 8th inst. Colonel Wilson was in command, and put the men through the ordinary company drill, stretcher drill afterwards proceeding under Lieutenant Little. The inspecting officer, Sir Donald Matheson, K.C.B., warmly congratulated both officers and men on the appearance and drill of the company.

Glasgow and West of Scotland Technical College.

The opening of the session in the department of practical sanitation was undertaken by Professor John Glaister, M.D. Glasg., who delivered a lecture on "The Evolution of Sanitation in Relation to the Plumber." The lecturer treated the art of plumbing and practical sanitation from the historical aspect and urged the great necessity for those engaged in its practice of gaining an acquaintance with the scientific principles upon which their art is based. Professor Glaister received a hearty vote of thanks for his lecture.

Marine Biological Station, Firth of Clyde.

The foundation stone of this new scientific institute, which is in course of erection at Millport, was laid on the 18th inst. by Dr. Thomas Reid, Lecturer on Diseases of the Eye in the University of Glasgow. The site for the building was given by the Marquis of Bute and Dr. Reid has given £500 towards the building fund.

Medical Appointments.

Mr. John M. Munro Kerr, M.B., C.M. Glasg., and Mr. R. K. Currie, M.B., C.M. Glasg., have been appointed physicians for diseases of children to the Glasgow Central Dispensary. The directors of the Glasgow Western Infirmary have decided to increase the staff by the appointment of two additional assistant surgeons.

University College, Dundee.

The introductory lecture of the session was delivered on the 13th inst. by Vice-Principal John Yule Mackay, M.D. Glasg. In the course of his address Dr. Mackay referred to the questions at issue between the College and the University of St. Andrews. The agreement originally arrived at between the two institutions provided for the gradual development in Dundee of a College of university rank without prejudicing in any way the interest of St. Andrews. That agreement, it is true, had been challenged in the law-courts, but the House of Lords had upheld its validity upon every essential point. It remained for the Privy Council to consider the ordinance adopted by the University Commissioners. Dr. Mackay urged the necessity for a prompt settlement in the interests alike of St. Andrews University and Dundee.

Aberdeen University.

The winter sessions in the medical, science, and arts faculties opened last week. At the materia medica class Professor Cash in his opening lecture dwelt upon the importance of original work in the University laboratories. In the chemistry class Professor Japp said they had now a department that could be claimed to satisfy all modern requirements. The subject being now one for degrees in science and in arts as well as medicine the attendance has gone up 50 per cent. At the anatomy class Professor Reid impressed upon the students the importance of practical work by themselves and drew attention to the new anthropometrical laboratory. At the geology class Professor Nicholson said the present accommodation for advanced laboratory work was somewhat small, but there were considerable hopes that in the near future the department would be enlarged. In opening the class on systematic pathology Professor Hamilton said the department for the teaching of his subject was now one of the finest of the kind in the world. All these classes met in Marischal College. At King's College the new Anderson lecturer, Mr. G. F. Stout, was introduced and commenced his course by a lecture on the History and Present Condition of Psychology in Animals. On account of the state of the finances the University Court have been unable meantime to found a chair of History. Aberdeen University Council has appointed a committee in reference to the scheme for obtaining contributions to meet the wants of the University. A three days' bazaar for raising an endowment fund for the Students' Union was opened on Wednesday. At the date of writing no practical step had been taken by the students as to the Lord Rectorship.

Aberdeen Branch of the British Medical Association.

The annual meeting of the Aberdeen, Banff, and Kincardine Branch of the British Medical Association was held on Saturday in the Surgery Class-room, Marischal College, Aberdeen. Dr. George Trail, Strichen, was elected President for the ensuing year and delivered a short address. The members visited the anatomical department in the College, also the wards of the Royal Infirmary and the Ophthalmic Institution, King-street, where Dr. M'Kenzie Davidson gave a demonstration of the x rays. The dinner took place in the Imperial Hotel.

Aberdeen Royal Infirmary.

The Czar of Russia has contributed £100 to the funds of this hospital.

Oct. 20th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Richmond District Lunatic Asylum.

THE number of patients in this institution now suffering from beri-beri is seventy-three, while a death has occurred suddenly in the person of one of the nurses who was recently attacked. At the inquest the coroner said that "the continuous overcrowding had at last culminated in a state of things that was most undesirable, and he thought that the jury were called upon to express an opinion condemning the present state of things and the dilatory proceedings on the part of the Board of Control." The jury then found that the deceased woman died from heart failure caused by beri-beri, which, in their opinion, had mainly its origin in the overcrowded condition of the institution.

Death of Mrs. Kendal Franks.

A telegram announcing the death of the wife of Mr. Kendal Franks has been received in Dublin with much regret by the many friends of that most popular surgeon. It is well known that his recent departure from Ireland was caused by the continued ill-health of Mrs Franks, which necessitated her permanent residence in a milder climate. Mr. Franks gave up a high position in Dublin and a large practice. Great sympathy is felt with him in his bereavement.

St. Vincent's Hospital.

Mr. William Dargan, M.B. R.U.I., lately house surgeon at the Mater Misericordiæ Hospital, has just been appointed physician to the extern department of St. Vincent's Hospital.

Salaries of Irish Dispensing Medical Officers.

In THE LANCET of Oct. 17th I reported that at a meeting of the Newry board of guardians it was announced that the committee of the Mountnorris Dispensary intended to cut down the salary of the new medical officer to £100 per annum instead of £120 as formerly. The Newry board of guardians wisely asked the committee to re-consider their decision, with the result that, in order to meet the wishes of the guardians, the committee have again met and have recommended that the future medical officer's salary be £120. The election is to be held on Wednesday, Nov. 11th. The Newry board of guardians passed a resolution of condolence with Mrs. Young on the death of her husband, who was the late dispensary medical officer of Mountnorris, County Armagh.

Belfast Medical School: Opening of the Winter Session.

The winter session (1896–97) began on Oct. 20th, when classes resumed at Queen's College, Belfast, where the new physiological and pathological laboratories, which are most complete and admirably furnished with the most recent requirements for teaching and for original research, are at present open. Owing to physiology being now located in new quarters the Professor of Anatomy has been able to secure more accommodation, and the old physiology microscopic room has been turned into a capital "bone room," which will be of the very greatest advantage to students. The new lectureship on ophthalmology at Queen's College will be inaugurated on Oct. 26th. At the Royal Hospital on Oct. 20th the introductory address to the students by Dr. R. Strafford Smith was read in his unavoidable absence by the Registrar, Dr. H. McKisack. After welcoming back the students Dr. Smith, in his introductory address, touched on the subject of Slight Ailments, such as indigestion, neuralgia, &c., which, although perhaps not so attractive to the student as some more marked surgical or obscure medical case, would in practice be constantly brought before him, often baffling his medical and dietetic resources. He also referred to the importance of sanitation and incidentally spoke of this burning question of Belfast at the present moment. He dwelt on the changes that had taken place during the recess, one being the building and equipment of a very thorough and up-to-date post-mortem room at the hospital, which would be of the greatest advantage to the students; and in conclusion he spoke of the great loss sustained by the school and the public of Belfast by the death of Dr. Ross, the senior physician of the Belfast Royal Hospital.

The Health of Cork.

The medical superintendent officer of health for Cork, in his report for the four weeks ending Sept. 19th, states that the total number of infectious diseases reported to him were as follows: Typhus fever, 1 case; typhoid fever, 2 cases; simple fever, 1 case; scarlet fever, 6 cases; puerperal fever, 1 case; erysipelas, 10 cases; total, 21 cases; being greater than the number reported for the previous month, but less than for the corresponding month of last year. It will be noted that nearly half the cases reported were cases of erysipelas. The total number of deaths registered was 100; 20 of the deaths occurred in infants twelve months old and under. There was 1 death from whooping-cough and 5 were attributed to diarrhœa. The total mortality was 17·25 per 1000 and the infectious death-rate was 1·03. The death-rate is higher than for the corresponding period of last year, the difference being due altogether to an increased infantile mortality, the latter representing one-fifth of the entire death-rate.

The "Thomond" Bazaar at Limerick.

During the summer a very large fancy fair bazaar called "Thomond" was held in Limerick in aid of St. John's Hospital and the Magdalen Asylum. The committee of management now announce that after paying all expenses a sum of £2387 remains for distribution between the two charities.

Oct. 20th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Ovario-therapy.

M. TOUVENAINT communicated to the Société Obstétrique et de Gynécologie, at a meeting held on the 8th inst., the result of his clinical researches into the indications and effects of the treatment of various morbid states peculiar to the female by the administration of ovarian tissue. In these experiments, continued during several months, he made use of the heifer's ovaries dried at a temperature of 25° C., powdered, and given in pills, each containing 12 centigrammes of the dried powder, which quantity corresponds to 80 centigrammes of the fresh organ. Two or three pills were given daily a quarter of an hour before meals. Of fifteen patients thus treated four had undergone total vaginal hysterectomy, two double ovariotomy, three were affected with amenorrhœa, one with dysmenorrhœa, three with serious chloro-anæmia, and two were under the influence of the natural menopause. M. Touvenaint is led by his experience to the following conclusions: (1) Ovarian medication can be had recourse to and even continued for a prolonged period with safety provided the effects are watched; (2) the average dose of the dried organ should not exceed 24 or 36 centigrammes a day; (3) the treatment should be continued for several months; (4) ovario-therapy appears to be particularly applicable in the treatment of amenorrhœa and chloro-anæmia, in which conditions the results are excellent; (5) it is also very useful in all cases of surgically induced "change of life"; and (6) it may also be tried with advantage in combating the nervous symptoms peculiar to the natural climacteric.

Should Medical Certificates be Written on Stamped or on Unstamped Paper?

Not long ago Professor Panas delivered a certificate detailing the nature of the disease and the length of the illness of one of his ophthalmic patients at the Hôtel Dieu, the ordinary hospital paper, as usual, being utilised for the purpose. This same patient some time afterwards brought an action before the Tribunal de la Seine based on the existence of the eye mischief in question and produced Professor Panas' certificate. The Registry Office thereupon took action and had the Professor fined to the tune of 62 fr. 50 c. for having omitted to indite his certificate on duly stamped paper. M. Peyron, the Director of the Assistance Publique, has at Professor Panas' request issued the following circular to the members of the hospital staffs:—

"Il résulte des renseignements qui viennent de m'être fournis que tous les certificats de médecins ou chirurgiens, *délivrés à des particuliers* [private individuals] *dans un intérêt privé*, sont assujettis au timbre de dimension, par application de l'article 12 de la loi du 13 Brumaire an VI."

A legal expert gives on this subject the following pronouncement[1]:—

"Tout certificat médical, délivré à un particulier, dans un but d'intérêt privé, doit être écrit sur papier timbré. Au contraire, tout certificat médical, délivré dans un but d'intérêt public de police général, est exempt de timbre."

[1] Bulletin de Médecin, Oct. 18th.

As the distinction is sometimes difficult between these private and public interests he recommends medical men to employ stamped paper—the cost of which is sixty centimes—in case of doubt. What would a physician of, say, Guy's Hospital think were he compelled to conform to such a rule when giving a poor out-patient a certificate? My professional brethren who pursue their calling at home may indeed be thankful for this and many other reasons that their lot is cast in free England.

The Introduction of Vaccine into France.

The secretary of the Russian Society which is organising the celebration of the Jenner Centenary, having asked the Académie de Médecine for particulars concerning the introduction of the practice of inoculation into France, M. Hervieux, deputed to reply, informs us that vaccine was first brought into France by the Duc de la Rochefoucauld-Liancourt, who had, during his stay in England, been a witness of the happy results obtained by the application of Jenner's views. On May 11th, 1800, he communicated to certain physicians and personal friends his impressions on Jenner's discovery, and opened a subscription list in aid of the propagation of vaccine. The sum asked for was immediately subscribed. On May 30th, 1800, a medical committee was formed for experimental purposes. The then Minister of the Interior (Lucien Bonaparte) and the Prefect of the Seine gave their support to the new movement, and the Minister for Foreign Affairs (Talleyrand-Périgord) procured some of the precious lymph from the Vaccine Institute of London. The first trials (on thirty children) were unsuccessful. Dr. Woodville of London crossed over to Paris and was equally unsuccessful, but as that gentleman had successfully vaccinated several children at Boulogne fresh lymph was procured from that town and all went well at Paris. The movement became generalised, and committees were formed in the principal cities of the Republic. A report drawn up by Hallé, and presented to the First Consul on March 14th, 1803, induced Chaptal, the Minister of the Interior, to issue a circular to the prefects asking for information concerning the results of the method. On April 4th, 1804, Chaptal appointed a central committee composed of the existing body *plus* certain men of science and State functionaries, whose duty it was to centralise all such information. Napoleon Bonaparte was not the introducer of Jenner's method into France, but he gave its practical application his moral support. Reports issued by the Central Committee were annually submitted to the Emperor, who decreed on May 16th, 1809, the compulsory preservation of a stock of vaccine in all the principal towns of the Empire. When, on Dec. 20th, 1820, the Académie de Médecine was founded the functions of the Central Committee were transferred to that corporation, although the committee was not finally dissolved until 1823. From this latter date up to the present time the vaccine service has been under the direction of the Académie de Médecine.

An Interesting Marriage.

The approaching marriage of M. Jean Charcot, son of the late Professor Charcot, with Madame Jeanne Hugo, granddaughter of Victor Hugo, is announced. Some of your readers will, perhaps, know that Madame Jeanne Hugo was married to M. Léon Daudet (son of the celebrated *romancier*, Alphonse Daudet), from whom she was subsequently divorced. M. Léon Daudet was a medical student, and his book, "Les Morticoles," in which he vented his bile on members of our profession, was fully criticised in the columns of THE LANCET.[2] M. Jean Charcot is a member of the medical profession.

Oct. 20th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Professor Behring's Antitoxin Serums.

As was mentioned in THE LANCET of Oct. 17th, a party of medical members of the German Association of Naturalists and Medical Men after the meeting in Frankfort visited the Hoechst chemical factory, where Behring's diphtheria antitoxin is prepared. Professor Behring (of Marburg) was present, and delivered an address, in the course of which he expressed his belief that the troublesome complications, such as urticaria and swellings of the joints, which frequently result from injections of the serum will in time be prevented. These symptoms are not directly attributable to the antitoxin, but are due to irritation produced by the serum, for injections of pure sterile blood serum will often cause them, and, moreover, they are not increasing in frequency, although the antitoxin at present in use is much more concentrated than formerly. Investigations made independently of each other by Professor Heubner of Berlin and Dr. Knoll of Marburg have resulted in the discovery that antitoxin when introduced into the body is not absorbed by living cells or equally distributed in all the tissues, but is at once taken up by the serum of the blood, the corpuscles absorbing only a very small portion. A few days after the injection it gradually diminishes in quantity, and in three weeks it has practically disappeared from the body. It is, therefore, possible to bring about an immunity against diphtheria lasting at least three weeks, but all the attempts that have been made to produce a longer immunity have failed, because the higher the concentration of the antitoxin the more rapidly does it diminish, so that an immunity of over six weeks is certainly unattainable. Professor Behring here stated that the methods followed in these experiments were largely due to Professor Ehrlich of Berlin, and went on to say that it is already known for certain that antitoxins against cholera and against tuberculosis exist, but the laboratory experiments that have been made are extremely difficult, and it may be years before they yield practical results. He has, however, prepared a tetanus antitoxin which will soon be ready for distribution to practitioners. One effect of the preparation of antitoxin serums by the Hoechster Farbwerke is that the shares of the company have risen greatly in price. Professor Behring then mentioned that the Government had excused him from delivering his university lectures so that his whole time might be devoted to these researches; he also described the preparation of the serum from the blood of young horses and gave some account of two institutions in which unremitting endeavours are being made to improve the serum and increase its efficiency. One of them is connected with the University of Marburg, and confines its work to special research in connexion with serum treatment and the discovery of new remedies against infectious diseases. The other is the Government institution at Berlin (Steglitz), where under Professor Ehrlich, a strict control is exercised over all serum preparations. No serum of the Hoechst factory is allowed to be sold unless the Berlin institution has guaranteed that it is absolutely free from germs, that it is of uniform strength, and that it contains $\frac{1}{2}$ per cent. of carbolic acid as a maximum. The manufacture of the serum is carried on at Hoechst, in special buildings of the Farbwerke, and under the constant supervision of Dr. Libberty of Frankfort.

The Congress of the German Society of Public Health.

Medical congresses have been so numerous in Germany during the past few weeks that it is nearly impossible to give a detailed account of all the proceedings, and the number of such gatherings will, undoubtedly, be greater next year. The meeting of the German Society of Public Health, however, deserves special mention. This society includes not only medical men, but other persons interested in public health matters, such as architects, town councillors, &c. This year's meeting was held in Kiel, under the presidency of Dr. Pistor. The first subject of medical interest was a paper read by Dr. Brennecke (Magdeburg) on the Provision to be made for Lying-in Women of the Poorer Classes. He said that the present system under which such women are attended at home by the parish medical officers or midwives is quite unsatisfactory. The dwellings of the poor are altogether unsuitable for antiseptic operations, and lying-in hospitals under the control of the municipal or other local authorities ought to be established in every town, however small, throughout the country. The importance of this question may be inferred from the great number of puerperal fever cases in private practice as compared with those in hospitals. Professor Fraenkel (Halle), speaking on the subject of diphtheria, said that it is no longer doubtful that Löffler's bacillus is the sole cause of this disease, and that all our measures should accordingly aim at destroying the bacillus. This can be done (1) by overcoming the bacillus in the patient by means of antitoxin; (2) by disinfecting the surroundings of the patient; (3) by isolation of the patient;

[2] THE LANCET, Dec. 8th, 1894, p. 1360.

and (4) by prophylactic injections and gargles. An early bacteriological diagnosis is, of course, quite indispensable. Professor Busley (Kiel) read a paper on Hygiene on Board Ship. He described the improved methods which have been adopted in certain of the new German men-of-war with respect to ventilation, water-supply, disinfection, heating, &c. He stated that the mortality of the navy has recently been reduced by hygienic precautions to 2·6 per 1000, and expressed a hope that next century, when electricity will have replaced steam as a source of power on board ship, there will be a further improvement. In the ensuing discussion Dr. Nocht, chief medical officer to the port of Hamburg, said that although he fully recognised how great a change for the better had been effected in ships of war and in the large transatlantic steamers, yet the hygienic conditions of the average merchant vessel, whether sailing vessel or steamer, left much to be desired. The places where the crew slept were, as a rule, dirty, ill-ventilated, and of insufficient height; the washing accommodation was unsatisfactory, and there was no facility for disinfection in case of infectious diseases. It is thus quite natural that tuberculosis should be very frequent among seamen in spite of their living in the bracing sea air. The condition of ship's stokers or firemen is still worse. Their hours of work are much too long and heat-stroke is very frequent among them. Dr. Nocht has made observations of the temperature of firemen on board steamers, and found that in 58 men it was 37·9° C., in 23 it was 38·5°, in 8 it was 38·9°, and once it was 40·5°. The great number of suicides also merits the special attention of the port authorities. The existing regulations as to hygiene at sea are not at all satisfactory and require thorough revision. It is unjust that in vessels which are floating palaces, provided with every comfort for the cabin passengers, the crew should live under conditions which must necessarily lead to an early death.

Disinfection by Formaldehyde.

In the columns of the *Deutsche Medicinische Wochenschrift* and at the medical congress recently held at Frankfurt Dr. Rosenberg of Berlin has described his experiments with some combinations of formaldehyde. Aqueous solutions of formaldehyde have, under the name of formalin, been for some time in use for disinfecting purposes. Dr. Rosenberg employed an alcoholic solution called holzine and a combination of this with menthol, known as holzinol, both of which proved to be strong antiseptics and killed the spores of anthrax bacilli. The vapour of holzine is specially valuable for the disinfection of rooms; it is beneficial also in whooping-cough and diminishes the respiratory embarrassments which accompany phthisis. An aqueous solution of holzine may be advantageously used for cleaning the floors of rooms which have been occupied by cases of contagious illness. Articles of food, such as meat, eggs, bread, and potatoes, which have been exposed to the vapour and subsequently covered with a thin layer of holzine gelatin will keep good for several months. In another part of the same journal Dr. Gottstein, who had likewise endeavoured to preserve food by exposure to the vapour of formalin and subsequent coating with formalin gelatin, states that he succeeded in avoiding putrefaction, but the articles so treated became hard like stone and therefore useless.

Oct. 20th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

"Società Freniatrica Italiana": its Ninth Congress.

DR. ELLERO of Milan maintained at the first day's meeting of the Congress that in depriving a citizen of the management of his affairs, or in subjecting him to any kind of "interdizione" whatever, the law must be compelled to invoke the medico-psychologist, and he went in considerable detail into the necessity for reforming the Italian procedure in this sense. Professor Tamburini supported this position and pointed out various anomalies due to the traditional system. Three years ago, he said, an individual "interdicted" on account of mental alienation from the control of his estate was at the same time held responsible for criminal acts. Signor Ferri, a jurist with medico-psychological training, asked if Dr. Ellero included misdeeds due to the passionate impulse of the moment as entitling their author to the plea of irresponsibility, to which Dr. Ellero replied that wherever inhibitory paresis was medically proved that plea should be held valid. Signor Ferri (whose brilliant debating power, as recently displayed at the Fourth Congress of Criminal Anthropology, gave exceptional interest to its proceedings) being satisfied on this point, concluded by a cogent vindication of Dr. Ellero's arguments. Professor Bianchi of Naples, next held the Congress in close attention as he showed how partial lesions of the cerebrum could in certain subjects induce profound paraphrasic dementia, and with it loss of "civil capacity" (*capacità civile*). He illustrated his position by cases characterised by destruction of the "verbal, visual, or acoustic provinces" (*provincie*) and by "lesions of associative *fascie* between the frontal lobe and the posterior parts of the cerebrum," in which the whole psychical mechanism was comprised. At the second day's sitting Professor Bianchi once more interested the audience by his report of a case in which tumour of the anterior of the cerebrum determined psychical disturbance without affecting motility or sensibility. A very animated discussion ensued in which the leaders of the Congress took a prominent part, the official summary of which will give special value to the "Atti" when published. Interest was further sustained when Dr. Andreucci of Naples gave the result of experiments on the localisation of tactile sensibility in the cerebral cortex, whilst Professor Bianchi, on the strength of clinical observation as well as laboratory research, assigned an extended area to the centre of tactile sensibility. Professor Raggi of Pavia commanded the assent of his audience when he insisted on a still deeper study of pathological anatomy in mental diseases, and on the necessity of creating a special anatomico-pathological department in all alienist cliniques and in the larger "manicomi." The later sittings were chiefly memorable for discussions on "the struggle against degeneration" and on "the determination of the data whereby psychiatry contributes to shed light on social phenomena"—discussions in which Morselli of Genoa, Lombroso of Turin, and Ferri of Rome, intervened effectively. The Congress wound up with a banquet at Fiesole, at which the successive speakers dwelt on the great advance it had registered over its predecessors and on the progressive value of the "Atti" in which their proceedings are officially embodied.

Stamping out of Small-pox at Milan.

The "anti-vaccinationist" is a *rara avis* in Italy and tends to become still *rarior* in view of facts like the following. In Milan small-pox used to be endemic. For the last fifteen years the registrar's returns represented it as a "constant quantity." Now it is something less than a "quantité négligéable"; for four months, in fact, it has ceased to exist. How has this been brought about? Let a lay witness be empanelled—a witness cognisant of the facts—and hear his evidence. Small-pox in Milan, he says, crops up always and in every quarter, "dove non si pratica la vaccinazione come si deve" (where vaccination is not practised as it ought to be). Vaccination, he adds, must be reinforced by its natural complement re-vaccination, "since one solitary vaccination, as the law requires from each child within the first six months from birth, does not suffice to protect the child, in the vast majority of cases, more than ten years." This year, he proceeds to say, we have looked on at a special re-awakening in the appliance of preventive measures on the part of the municipality, which has initiated a veritable crusade against small-pox. Then he gives a long list of the inspections instituted wherever men congregate or a family is housed—inspections systematically prosecuted in every school, factory, and resort of human beings of any kind, and the compulsory re-vaccination of the inmates of all these locales whenever a single case of small-pox declared itself. A fine in money was exacted in each case where the municipal mandate for re-vaccination was resisted, and "liberty of the subject" was invoked in vain against the operation. In the first few months of the year the vaccinations and re-vaccinations practised in this way numbered 25,000. In April only thirty cases of small-pox were registered. In May that total had sunk to thirteen. Since then the malady has disappeared. "La totale Scomparsa del Vajuolo" (the complete riddance of small-pox at Milan) is the title of a jubilant article in its leading journal, which concludes with an exhortation to the

rest of the kingdom to emulate the practice of Germany where, with a population two-thirds more than that of Italy, deaths from small-pox number only between 100 and 150 a year.

Pestis Bubonica.

The sanitary precautions taken at Port Said against the plague, which since the later half of September has declared itself at Bombay, have been followed by active steps at Alexandria and Constantinople in order to exclude it from the shores of the Levant. Italy, also, is on the alert with the same object, its Public Health Department being especially vigilant to prevent a recurrence of a malady not unknown in a sporadic form some fifteen years ago at Naples.

Oct. 16th.

Obituary.

MORITZ SCHIFF.

ST. BASIL, to whom clinical medicine owes its first hospital, addresses a homily to young men on "How to profit by Profane Literature" (*ὅπως ἂν ἐξ Ἑλληνικῶν ὠφελοῖντο λόγων*) in which he reminds them of Hesiod's saying that the most perfect man is he who of himself perceives what is right; that the next best is he who most readily acquires that knowledge from others; while the third man, who possesses neither of these faculties, is really good for nothing. Moritz Schiff belonged, pre-eminently, to the first category and had also the art of saving young men from the third by his unrivalled power of qualifying them for the second. He was a great "seeker after truth" and a discoverer of it, and he was, moreover, a great teacher who could impart to others all he knew and even prepare them so to follow his lead as to become discoverers themselves. Schiff is a well-known name in Frankfort-on-the-Maine and there the future biologist saw the light on Jan. 28th, 1823. The family career of commerce was open to him, but he early showed a decided leaning to nature-study, so that his parents allowed him his choice, which was to qualify for medicine. He matriculated at the University of Heidelberg, where he distinguished himself in anatomy under Tiedemann. Subsequently he passed to Berlin and became an accomplished physiologist under the illustrious Johann Müller. Concentrating his studies on medicine proper he proceeded to Göttingen, and there by a brilliant thesis took his Doctor's degree in 1844. Thus equipped for practice he reverted once more to "the institutes of medicine," and repairing to Paris he became so attracted by the teaching and the personality of Majendie that thenceforth his passion for biological, especially physiological, research was irresistible. Urged to enter upon practice he returned to Frankfort-on-the Maine, but though a sound and painstaking and eminently acceptable consultant his devotion to physiology, particularly in its experimental department, re-acquired the mastery, and in spite of seeming deviations into the field of natural history when he acted as curator of the ornithological section of the Frankfort Zoological Museum, a professed physiologist he became and a professed physiologist he lived and died.

Passing over his work on the fauna (especially the ornithology) of South America, which was published under the auspices of Prince Lucien Bonaparte as well as independently in his "Conspectus Avium," and only glancing at his quarrel with the Hanoverian Government which prevented his teaching as *privat-docent* at Göttingen, we find him in 1856 installed in the University of Berne as Professor of Anatomy and Pathological Physiology. In that seat of learning he started on his academic career and made himself so distinguished as a teacher that he was invited in 1862 by the newly-constituted Italian kingdom to share with Moleschott the task of rehabilitating Italian medicine, his special school being Florence, as Moleschott's was Turin. In the Istituto di Studi Superiori of the Tuscan capital he did splendid work, particularly on "digestion in the stomach" and on the "functions of the spleen"; but, with regret be it spoken, an agitation, in which local jealousy or *chauvinisme* was not unrepresented, was organised against him. This assumed the sentimental guise of a protest against vivisection (though Ludwig himself was not a humaner man than he) and, thanks to the skilful tactics of his opponents (among whom the female element preponderated), Florence was eventually (in 1876) made intolerable for him, and he accepted the post offered him by wiser and less ecstatic Geneva — to the speedy regret and permanent loss of the Tuscan school. Indeed, when in January, 1894, the fiftieth anniversary of his graduation in medicine was celebrated as a jubilee and physicians and biologists among former pupils sent in their congratulations from all parts of the world, the most cordial was the address, couched in beautiful Latinity,[1] from Florence, representing her treatment of him and fraught with gratitude for the inestimable boons he had conferred during his brief tenure of her physiological chair. This *amende* was all the more required, as in the very year of his departure from Italy he had taken a noble revenge by vindicating for Italian medicine its priority in electro-therapeutics—a vindication embodied in a series of papers specially translated for THE LANCET,[2] and appealing with peculiar force to all that was most generous in the Italian nature, not least for the perfect skill the papers revealed in the language of Dante and Guicciardini. At Geneva Moritz Schiff threw fresh life into the medical school from his work in the physiological laboratory and his lectures from the physiological chair. There he conducted those researches into the functions of the thyroid which have "formed a point of departure for all ulterior studies on the internal secretions," and which have really culminated in that "organo-therapeutics" which is one of the boasts of the later decades of the nineteenth century. There, too, he carried on those minute, delicate, and severely exact investigations into the "degeneration and regeneration of the nerve fibres after section" which have, first in his own hands, and subsequently in those of others, fructified in such splendid results for practice. Indeed, the nineteen years during which he lived and laboured in Geneva will form in the future history of medicine one of its most pregnant chapters, the materials for which must be sought in numberless communications to learned bodies and special monographs which we have neither time nor space to particularise. When in January, 1894, Geneva celebrated the fiftieth anniversary of his medical doctorate his pupils, past and present, took the happy initiative of publishing the more elaborate of these writings in a special edition revised by the author, and it was in carrying the successive volumes through the press that Schiff occupied the last few years of his life. Written in classic German, Italian, and French, they form with his earlier work in Latin a monument not only of his scientific but of his linguistic accomplishment, which taken in connexion with his command of English was, of itself, a distinct title of honour. This, however, was but the ornamental crown to the solid edifice of his acquirements—acquirements made on the principle that nothing should be taken for granted or accepted on authority but must be verified, checked, and re-verified till doubt as to it was at an end. In the language of one of his eulogists he had a horror of "la science livresque," a habit of mind which was his practical equivalent for the late Sir G. M. Humphry's "eyes first, hands next, ears last." To arrest the attention, to engage the interest, to enlighten the intelligence, and to exercise the reasoning powers of his young audience was at once his aim and his triumph, and when, as his jubilee in 1894 demonstrated, he had educated a phalanx of congenial workers in the field of his first choice and life-long devotion all of whom were passing on the torch to hands similarly prepared, he could say with a truth and a pride not conceded to every investigator and teacher, "J'ai achevé mon œuvre."

He died on Tuesday, Oct. 6th, and his funeral on the Thursday following attested the love and gratitude in which he was held not only by academic but by civic Geneva. M. Gourd, rector of the University, pronounced an eloquent *oraison* over his tomb, and Dr. Vaucher, dean of the Faculty of Medicine, in impressive language gave a rapid survey of his career equally profitable to science and to practice.

A concluding word as to his relations with the "Société pour la Protection des Animaux" may fitly be added. At Geneva his experiments on living animals were not subjected to the uncompromising opposition they incurred from the Florentine "zoophilists." He pursued his laboratory work in all its departments unmolested, while, it is equally true, he never offended the most susceptible of the anti-vivisectionists. He observed every precaution against the infliction

[1] Vide THE LANCET, Feb. 3rd, 1894.
[2] THE LANCET, July 22nd and 29th, 1876.

of pain, sharing to the full the conviction of Ludwig that an experimenter who makes his subject wince really vitiates the operation and may be compared to the man who "fires a pistol into a chronometer to gain an insight into its works."

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the Second Examination of the board in the subjects indicated:—

Monday, Oct. 12th:

Anatomy and Physiology.—Norman Alexander Aylmers-Hughes, Yorkshire College, Leeds; Hugh Frederick Sheldon and John Miller, Owens College, Manchester; Sydney Smith, University College and St. Mungo's College, Glasgow; Leonard Satchwell Smith, Mason College, Birmingham; Percy Southan, Mason College, Birmingham, and Mr. Cooke's School of Anatomy and Physiology; Henry Hemsted and Philip Graham Stook, University College, Bristol; Ernest John Scorah, Firth College, Sheffield; Michael Sheehan, Queen's College, Cork; and Ralph Lamb, University College, Liverpool.

Anatomy only.—Frederick Charles Torbett, Owens College, Manchester; Ralph Holt, Royal College of Surgeons in Ireland and Mr. Cooke's School of Anatomy and Physiology; and Osbert Carden Sibley of Middlesex Hospital and Mr. Cooke's School of Anatomy and Physiology.

Physiology only.—Louis Charles Martin, Guy's Hospital and Mr. Cooke's School of Anatomy and Physiology; Edwin Hyde, Cambridge University and St. George's Hospital; Penry Garnous Williams, St. Thomas's Hospital; and Thomas Lithgow Braidwood, St. Thomas's Hospital and Mr. Cooke's School of Anatomy and Physiology.

Eighteen gentlemen were referred in both subjects, four in Anatomy only, and three in Physiology only.

Tuesday, Oct. 13th:

Anatomy and Physiology.—William Fay Bennett, Cecil Charles Brandon Thompson, Cyril Charles Coleby Kirke White, William Claughton Douglass, and Henry Bond, St. Bartholomew's Hospital; Bertrand Seymour Jones, Leonard Stanley Dudgeon, St. Thomas's Hospital; Frederick William Twort, St. Thomas's Hospital and Mr. Cooke's School of Anatomy and Physiology; Robert Nimmo Watson, Westminster Hospital; Edmund Hamilton Blake Stanley, Arthur Izod Sheldon, University College, London; Frederick Colin Rogers and Robert Eardley Byam Wilmot, St. Mary's Hospital; and Henry Bertram Dismorr, Guy's Hospital.

Twenty-two gentlemen were referred in both subjects.

Wednesday, Oct. 14th:

Anatomy and Physiology.—Harold Goodman, William Gavin Hamilton, Samuel Mason, Henry George Pinker, Arthur Bailey Pugh, Albert John Watson Wells; Henry Gilbert Wood-Hill, St. Bartholomew's Hospital; Rayner Winterbotham, Frederick Samuel Leech, Frederick William James, Edward Bertram Leslie Moore; Henry Constantine Woodyatt, University College, London; William Bradshaw Harris, Walter Cecil Clarance Cornwallis Davies; William Lincoln Baker and Willmot Holmes, St. Mary's Hospital; James Alexander Macleod, London Hospital; Henry Bertram Foster and William McIlroy, Guy's Hospital.

Twenty-three gentlemen were referred in both subjects.

Thursday, Oct. 15th:

Anatomy and Physiology—William Frank Peach, James Frederick Edmund Bridger, and Percy Nelson Smith, St. Mary's Hospital; Richard William Herbert Meredith, and Alfred Bertram Vine, Middlesex Hospital; Eric George Battiscombe, London Hospital; Oscar Ernest Lemin, London Hospital and Mr. Cooke's School of Anatomy and Physiology; Frank Ewart Manning and Allan Percival Watkins, University College, London; and Thomas William Smith, Charing cross Hospital.

Passed in Anatomy only.—Henry Augustus Ahrens and Arthur Hunt Safford, King's College, London; John Henry Tripe, London Hospital and Mr. Cooke's School of Anatomy and Physiology; and Thomas McCarthy, Queen's College, Cork, and Mr. Cooke's School of Anatomy and Physiology.

Passed in Physiology only.—Hill Mussenden Leathes, St. Thomas's Hospital; Rustom Pistonjee, Ceylon Medical College; Heber Noel Clarke, Cambridge University and London Hospital; and Victor Samuel Alexander Bell, Cambridge University and St. Bartholomew's Hospital.

18 gentlemen were referred in both subjects, 3 in Anatomy only, and 1 in Physiology only.

PRIZEMEN AND MEDALISTS AT THE METROPOLITAN MEDICAL SCHOOLS:—

King's College, London.—Science exhibitions given by the Worshipful Company of Clothworkers have been awarded to R. H. C. Gompertz (£30 a year for two years) and to M. R. C. MacWalters (£20 a year for two years).

HUNTERIAN SOCIETY.—A meeting of this society was held at the London Institution on Oct. 14th, the President, Dr. Herman, being in the chair. Dr. Stephen Mackenzie read a paper on Purpura: its Varieties, Causes, and Treatment.

THE committee of the National Refuges for Homeless and Destitute Children have appointed Mr. John A. Gartley honorary dental surgeon to their Ealing Home for Girls, St. Mary's-road, Ealing.

SOCIETY OF ANÆSTHETISTS.—The fourth annual meeting of this society was held on Oct. 15th at Limmer's Hotel, Mr. G. Hewlett Bailey, President, being in the chair. The following officers were elected for the ensuing year:—President, Mr. G. Hewlett Bailey; treasurer, Dr. Dudley W. Buxton; elected members of council, Mr. Walter Tyrrell, Mr. H. F. Lancaster, and Dr. Sydney Short (Birmingham); secretaries, Mr. C. Carter Braine and Mr. E. A. Starling (Tunbridge Wells); auditors, Mr. Theodore G. Burns and Mr. Alexander Wilson (Manchester). The members and their friends to the number of sixty-four afterwards dined together.

MEDICAL MAGISTRATES.—The Lord Chancellor, on the nomination of the Marquis of Ripon, Lord-Lieutenant, has placed Dr. Thomas Tinley of Whitby on the Commission of the Peace for the North Riding.—Dr. H. H. Phillips Conn of Reading and Mount Ida, near Waterford, has been appointed to the Commission of the Peace for the County of Kilkenny, on the recommendation of the Lord-Lieutenant of the county; and the Lord-Lieutenant of Banffshire has appointed the following gentlemen justices of the Peace for the county of Banff—namely, Dr. Alexander M. Cowie of Dufftown, Dr. William Donald of Banff, Dr. James Taylor of Keith, and Dr. Alfred Bell Whitton of Aberchirder.

PRESENTATIONS.—Dr. A. H Veitch of Burntisland, Fife, has been the recipient of several presents on the occasion of his leaving that town, among which were a handsome drawing-room clock and ornaments, a purse of fifty sovereigns, and a beautifully illuminated address bearing 150 signatures.—The members of the Liskeard (Cornwall) branch of the St. John Ambulance Association have recently presented Mr. William Hammond, M.R.C.S.Eng., L.R.C.P.Edin., with a lens for his microscope in appreciation of his services as honorary lecturer.—On the 20th inst. Dr. A. J. Helm Montague of Worksop was presented with a handsome case of table cutlery bearing the following inscription:—"Presented to A. J. Helm Montague, M.D., by the Members of the Ladies' Class of the St. John Ambulance Association, Worksop, 1896." He also received a cut-glass claret-jug mounted in electro-plate from the members of the mens' class.

LITERARY INTELLIGENCE.—The National Deposit Friendly Society have started a magazine, of which the first number has just been sent to us. It contains some interesting notes about the rise of the society, which was founded by the Rev. Canon Portal, rector of Albury, and an appreciative reference to our Special Commissioner's "Battle of the Clubs."—Messrs. Longmans, Green, and Co. will shortly issue a new book on "Diphtheria and Antitoxin," by Nestor Tirard, M.D. Lond.—We learn that a series of the eight editions of the "Extra Pharmacopœia," by Martindale and Westcott, has been awarded a gold medal diploma at the second International Pharmaceutical Exhibition recently held at Prague. The first edition also received a medal at the corresponding first exhibition held in Vienna in 1883.—Messrs. J. and A. Churchill announce that the following works will be published very shortly: a fourth edition of Dr. Lloyd Roberts's "Student's Guide to the Practice of Midwifery." This edition contains about one hundred new illustrations, the chapters relating to the use of antiseptics in midwifery practice having been thoroughly revised. Also a new work, "On the Natural and Artificial Methods of Feeding Infants and Young Children," by Dr. Edmund Cautley, Physician to the Belgrave Hospital for Children.—Mr. H. K. Lewis, 136, Gower-street, will shortly issue the thirteenth edition of Ringer's Handbook of Therapeutics. The Textbook of Bacteriology, by Professor E. M. Crookshank, just published by Mr. Lewis, is a fourth edition of that author's Manual of Bacteriology, reconstructed and greatly enlarged so as to be practically a new work.—Mr. W. B. Saunders, 925, Walnut-street, Philadelphia, has just issued two important practical treatises. One is an American Text-book of Physiology, edited by Professor W. H. Howell, of Johns Hopkins University; it is a volume of 1052 pages. The other is an American Text-book of Applied Therapeutics, edited by Professor J. C. Wilson, of the Jefferson Medical College, Philadelphia; it is a volume containing 1326 pages.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of directors of the society was held on Wednesday, Oct 14th, Mr. Christopher Heath, Vice-President, being in the chair. Four new members were elected and the deaths of four reported, and the election of a member was declared void. There were no applications for grants. A sum of £1223 was voted to be paid at the next court to the fifty-two widows, eleven orphans, and five recipients from the Copeland Fund, subject to the report of the Committee of Visitors. It was resolved to distribute the estimated surplus of income, amounting to £365, as a Christmas present among the widows and orphans in receipt of grants.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.—The annual meeting of this society was held in the medical library of University College on Oct. 14th. The retiring President (Mr. A. W. Prichard) resigned the chair to his successor (Dr. Aust Lawrence), who gave the President's inaugural address on "The Evils of Marriage and Pregnancy in Women who do not Possess Sound Pelvic Organs." The annual reports of the honorary secretary, editorial secretary, and the honorary librarian were read and adopted. The following officers were elected: President-Elect, Dr. J. E. Shaw; honorary secretary, Mr. J. Paul Bush; honorary librarian, Mr. L. M. Griffiths. Committee: Dr. Michell Clarke, Mr. J. Dacre, Mr. W. H. Harsant, Dr. B. Rogers, Mr. Munro Smith, and Dr. Waldo.

UNIVERSITY OF CAMBRIDGE.—Memorials signed by 2237 members of the senate have been presented to the Vice-Chancellor, deprecating the granting to women of membership of the Cambridge University or of any degree implying membership. A memorial in favour of conferring some title not carrying membership on women who have passed a Tripos examination is signed by 1369 members.—Dr. W. H. Gaskell, F.R.S., University Lecturer in Physiology, has been appointed a member of the General Board of Studies.—Mr. H. H. Clutton, M.A., M.B., surgeon to St. Thomas's Hospital, has been approved for the degree of Master of Surgery in consideration of his contributions to surgical science and practice.—Arrangements have been completed between the University and Addenbrooke's Hospital whereby university teachers in Medicine and Surgery may be appointed Clinical Lecturers at the hospital, though they are not members of the staff. Professor Allbutt has been appointed by the governors a lecturer under this scheme and is this term lecturing to the students of the hospital. It is hoped that the arrangement will prove beneficial both to Addenbrooke's Hospital and to the medical schools.—The first and second M.B. examinations will be held from Dec. 14th to Dec. 22nd, the third M.B. examination from Dec. 8th to Dec. 17th, and the M.C. examination from Dec. 11th to Dec. 14th. The names of candidates should be sent to the registrary (through the prælectors of their respective colleges) on or before Dec. 4th for the first and second examinations, and on or before Nov. 27th for the third examination.—The following have passed the examinations for the Diploma in Public Health: Messrs. P. J. Atkey, J. R. Carver, C. H. Cayley, H. Galt, J. H. Harris, W. W. Kennedy, D. J. Lawson, T. Mitchell, A. G. Newell, T. T. Ormerod, W. C. C. Pakes, R. Pemberton, A. S. Ransome, T. Robinson, H. L. Rutter, W. Scobie, J. Stalker, R. H. Strong, C. Todd, E. T. Whitaker, and H. J. E. H. Williams.—Mr. J. H. Widdicombe, First-class Natural Sciences Tripos, has been elected to a Fellowship at Downing College.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ALEXANDER, G. P., F.R.C.S. Edin., L.F.P.S. Glasg., has been re-appointed Medical Officer of the Forfar Infirmary.

AUSTEN, ALFRED, L.S.A., has been appointed Third Honorary Assistant Medical Officer to the Pimlico-road Free Dispensary, vice V. Denne, resigned.

BADGER, W. S., M.B. Vict., has been appointed a House Surgeon to the Royal Infirmary, Liverpool.

BAILEY, F. W., L.R.C.P., M.R.C.S., has been appointed a House Surgeon to the Gynæcological Wards, the Royal Infirmary, Liverpool.

BLATCHFORD, F. H., M.B., B.C. Cantab., has been appointed House Surgeon to the Isle of Wight County Hospital, Ryde.

BOASE, R. D., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer by the Penzance Town Council.

BOUCHER, ARTHUR HENRY, M.D., D.P.H. Camb., has been appointed Medical Officer of Health pro tem. for the Borough of Hertford.

BURROW, V., M.B., B.S. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to St. Mary's Hospital, Paddington.

CABLE, J., L.R.C.P. Edin., L.F.P.S. Glasg., has been re-appointed Medical Officer of the Forfar Infirmary.

CHETWOOD-AIKEN, K. C., M.B., C.M. Aberd., has been appointed Junior House Surgeon to the Royal London Ophthalmic Hospital.

CHRISTOPHERS, S. R., M.B. Vict., has been appointed a House Physician to the Royal Infirmary, Liverpool.

DAGLISH, R. R., M.R.C.S., has been re-appointed Medical Officer for the Isolation Hospital, Romney Marsh.

DURRANT, T. A., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Sanitary District of Oxendon.

EVANS, EDWARD P., M.R.C.S., L.R.C.P. Edin., L.S.A., has been re-appointed Medical Officer for the Mountain Ash District of the Pontypridd Union.

FLETCHER, W., M.B., B.C. Cantab., has been appointed Junior House Physician to the Metropolitan Hospital, Kingsland-road.

GOSTLING, G. W., has been appointed House Surgeon to the County Hospital, York, vice C. Hodgson, resigned.

GULLAN, A. G., M.B. Lond., has been appointed a House Physician to the Royal Infirmary, Liverpool.

HEAD, HENRY, M.A., M.D. Camb., F.R.C.P., has been appointed Assistant Physician to the London Hospital.

JOHNSTON, G. JAMESON, M.B., B.Ch. Irel., has been appointed Surgeon to the City of Dublin Hospital.

KEMPE, A., M.D. Brux., M.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Sanitary District of Exmouth.

LEES, B. L., M.B., B.C. Cantab., has been appointed Medical Officer for the No. 2 B (Worthing) Sanitary District of the East Preston Union.

LEIGH, W. W., J.P., M.R.C.S., L.R.C.P. Edin., has been re-appointed Medical Officer for the Llanvalon Sanitary District of the Pontypridd Union.

LEIGH, ALBERT, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Sanitary District of Threapwood, of the Whitchurch Union.

MACALISTER, J. D. I., M.B., C.M. Edin., has been appointed Honorary Medical Officer of the Forfar Infirmary.

MACCORMAC, JOHN M., M.D. Durh., L.R.C.P. & S. Edin., has been appointed Physician to the Victoria Hospital for Diseases of the Nervous System, Belfast.

MARTIN, G., M.B. Vict., has been appointed a House Surgeon to the Royal Infirmary, Liverpool.

MASON, WILLIAM, L.R.C.P., L.R.C.S. Edin., has been re-appointed Medical Officer of Health by the St. Austell Rural District Council.

MOORE, A. J., M.R.C.S., has been re-appointed Medical Officer for the St. Lawrence Sanitary District of the Reading Union.

MURRAY, C. DICKIE, M.B., C.M. Edin., has been appointed Physician to the Victoria General Hospital, Halifax, Nova Scotia, vice D. A. Campbell, resigned.

MURRAY, W. F., M.D. St. And., F.R.C.S. Edin., has been re-appointed Medical Officer of the Forfar Infirmary.

NELSON, PHILIP, M.B. Vict., has been appointed a House Surgeon to the Lock Wards, the Royal Infirmary, Liverpool.

PAGE, G. S., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the St. Peter's Hospital by the Bristol Incorporation, vice R. Fendick.

PALMER, H. L., M.R.C.S., has been re-appointed Medical Officer of Health for the Newtown Urban District.

PARSONS, ERNEST, L.D.S., R.C.S. Eng., has been appointed Dental Surgeon to the Metropolitan Hospital, Kingsland, N.E., vice Percy L. Webster, resigned.

PETERKIN, GEO., M.B., C.M. Edin., has been appointed Honorary Medical Officer of the Forfar Infirmary.

PILCHER, W. J., F.R.C.S. Eng., has been re-appointed Honorary Medical Officer of the Boston Hospital.

SOUTH, R. E. B., L.R.C.P. Lond., M.R.C.S., has been re-appointed Honorary Medical Officer to the Boston Hospital.

STAHLKNECHT, B., M.B. Vict., has been appointed a House Physician to the Royal Infirmary, Liverpool.

STOCKDALE, E. M., L.R.C.P., M.R.C.S., has been appointed a House Surgeon to the Royal Infirmary, Liverpool.

TUXFORD, A., M.D. Edin., has been re-appointed Honorary Medical Officer of the Boston Hospital.

TUXFORD, J. E., L.R.C.P., L.R.C.S. Edin., M.R.C.S., has been re-appointed Honorary Medical Officer of the Boston Hospital.

WEDDERBURN, A. MCL., M.D., C.M. Aberd., has been re-appointed Consulting Physician to the Forfar Infirmary.

WOAKES, CLAUD, M.R.C.S., L.R.C.P., has been appointed Assistant Surgeon to the London Throat Hospital.

WOOD, W. J. H., L.R.C.P., L.R.C.S. Edin., M.R.C.S., has been re-appointed Honorary Medical Officer to the Boston Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Surgeon to Out-patients.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY, Chesterfield.—Junior House Surgeon and Dispenser. Salary £50 per annum, with board, apartments, and laundry.

CITY HOSPITAL FOR INFECTIOUS DISEASES, Newcastle-upon-Tyne.—Resident Medical Assistant for one year, subject to re-election for a second year. Terms, £50 for the first year and £70 for the second year, with board, lodging, and washing.

CITY OF LIVERPOOL INFECTIOUS DISEASES HOSPITAL, Parkhill.—Resident Medical Officer. Salary £120 per annum, increasing £10 annually to £140 (subject to certain conditions). Board, washing, and lodgings at the hospital provided. Applications to the Town Clerk, Town Clerk's Offices, Liverpool.

COUNTY ASYLUM, Whittingham, Lancashire.—Pathologist. Salary £200 per annum, with apartments, board, washing, and attendance.

GESTO HOSPITAL, Island of Skye.—Medical Officer. Salary £200 per annum, with furnished house, fire, and light. Applications to Mr. Joshua MacLennan, Solicitor, Portree, Secretary to the Hospital Trust.

GOVERNMENT LEPER HOSPITAL, Robben Island, near Cape Town.—Resident Medical Officer and Bacteriologist. Salary at the rate of £500 a year, with quarters and rations. Applications to the Agent-General for the Cape of Good Hope, 112, Victoria-street, London, S.W.

GOVERNMENT LUNATIC ASYLUM, Fort Beaufort, Cape Colony.—Medical Superintendent for three years. Salary £300 a year, with quarters and rations. Applications to the Agent-General for the Cape of Good Hope, 112, Victoria-street, London, S.W.

HEIGHAM HALL, Norwich.—Senior Resident Medical Superintendent.

HOSPITAL FOR DISEASES OF THE THROAT, Golden-square, London, W.—Resident Medical Officer.—Salary £50 per annum, with board, washing, &c.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury.—House Surgeon, unmarried, for six months. Salary £20, with board and residence in the hospital. Also House Physician, unmarried, for six months. Salary £20, with board and residence in the hospital.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Assistant Physician.

NOTTINGHAM GENERAL DISPENSARY, Broad-street, Nottingham.—Resident Surgeon for a Branch Dispensary. Salary £200 per annum, with rooms and attendance.

PARISH OF BIRMINGHAM.—Assistant Resident Medical Officer at the Workhouse Infirmary. Salary £100 per annum, with furnished apartments, rations (which do not include alcoholic liquors), coals, gas, laundry, and attendance. Applications to the Clerk to the Guardians, Parish Offices, Edmund-street, Birmingham.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Assistant Resident Medical Officer for four months. Salary at the rate of £50 per annum, with board and residence.

ROYAL LONDON OPHTHALMIC HOSPITAL.—Clinical Assistants and Junior Assistants.

ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM, City-road, London.—House Surgeon. Salary £50 per annum, with board and lodging.

SUFFOLK COUNTY ASYLUM, Melton, Woodbridge.—Medical Officer, unmarried. Salary £120 a year, rising £10 yearly to £150, with board, residence, and washing.

THE MIDDLESEX HOSPITAL, Berners-street, W.—Surgical Registrar.

THE ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, London.—Resident Medical Officer, for six months. Salary at the rate of £100 per annum, with furnished apartments, board, and washing.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS, AND EPILEPSY, 73, Welbeck-street, London, W.—Honorary Anæsthetist.

WOLVERHAMPTON EYE INFIRMARY.—House Surgeon, for twelve months. Salary £60 per annum, with rooms, board, and washing.

Births, Marriages, and Deaths.

BIRTHS.

HESSEY.—On Oct. 2nd, at 85, High-street, Hastings, the wife of James Dodson Hessey, M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

ROMER.—On Oct. 18th, at Bushey-heath, Herts, the wife of R. Leslie Romer, M.R.C.S., L.R.C.P., of a son.

WOOD.—On Oct. 13th, at Milnsbridge, near Huddersfield, the wife of George Bennington Wood, M.B., C.M. Edin., of a daughter.

MARRIAGES.

BROADBENT—MONROE.—On Oct. 16th, at the Parish Church, Dalkey, county Dublin, Walter, second son of Sir William H. Broadbent, Bart., M.D., to Edith, only daughter of the Right Honourable John Monroe, ex-Judge of the High Court of Justice in Ireland.

PHILSON—CONDON.—On Sept. 22nd, at the Parish Church, Mussoorie, N.W.P., India, Samuel Cowell Philson, Surgeon-Captain, Army Medical Staff, to Emma Thoburn, daughter of Brigade-Surgeon J. Condon, Indian Medical Service, retired.

STIRLING—MARTIN.—On Oct. 17th, at St. Mary's, Shortlands, Robert Stirling, M.A., M.D., eldest son of D. H. Stirling, M.D., of Perth, N.B., to Mary Elizabeth, eldest daughter of W. Bentham Martin, of Dunolly, Shortlands, Kent.

DEATHS.

ALSTON.—On Oct. 19th, at his residence, East Cliff House, Sandgate, William Evelyn Alston, M.D., J.P., surgeon-major, retired, in his 61st year.

DAVEY.—On Oct. 17th, at Hill House, Walmer, Richard Staines Davey, M.D., J.P., aged 65.

KILNER.—On Oct. 18th, suddenly, at his residence, Norman House, Bury St. Edmunds, John Kilner, F.R.C.S., aged 76.

MCSHANE.—On Oct. 18th, at 26, St. David's-road, Southsea, Charles McShane, Inspector-General of Hospitals and Fleets, Royal Navy, aged 76.

PAWLETT.—On Oct. 18th, at Essex County Asylum, Edmund Lawton Pawlett, M.R.C.S., aged 24.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

TUESDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (2 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY (28th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.).

THURSDAY (29th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.)

FRIDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (31st).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (26th).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr. C. K. Jennings: Thirty Cases of Cancer of the Tongue.—Mr. P. J. Freyer: On the best Method of Removing Large Vesical Calculi.

TUESDAY (27th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8.30 P.M. Dr. Hastings Gilford (communicated by Mr. J. Hutchinson): A Condition of Mixed Premature and Immature Development.

WEDNESDAY (28th).—HUNTERIAN SOCIETY (London Institution).—8 P.M. Clinical Evening. Dr. R. Hingston Fox: (1) Elephantiasis; (2) Lymphadenoma with Rheumatic Complications.—Dr. A. Davies: (1) Case of Renal Calculus; (2) Hypertrophy of Breast in a Boy.—Dr. Dawson, Mr. Oppenshaw and Mr. Tubby will also show Cases.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND (20, Hanover-square, W.)—4.30 P.M. Council Meeting.—5 P.M. Dr. P. S. Abraham: Cases of Sarcoma Cutis, Devergie's Pityriasis Rubpilaris, Delhi Boil, and Sections of Yaws, to illustrate paper on Yaws in India by Dr. A. Powell of Cachar.

FRIDAY (30th).—BRITISH LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL ASSOCIATION.—3 P.M. Cases by Mr. L. Browne, Dr. M. Hunt, Mr. W. Wingrave, Dr. Stoker, Dr. D. Grant, Mr. Lake, Dr. MacN. Jones, and Mr. F. Marsh. Dr. Milligan: Demonstration of Kirstein's Autoscope. Card Specimen by Mr. Yardsley. Paper:—Dr Campbell: Respiration in Singers. Presidential Address by Dr. Milligan.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (26th).—LONDON POST-GRADUATE COURSE.—Roy. Lond. Ophthalmic Hospital, Moorfields, 1 P.M., Mr. R. M. Gunn: Strabismus.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Dr. G. C. Wilkin: Syphilis of the Pharynx and Larynx.

TUESDAY (27th).—LONDON POST-GRADUATE COURSE.—Bethlem Hospital, 2 P.M., Dr. Craig: Delusional Insanity; Paranoia.——Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. P. Abraham: The Tinea Group.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Dr. Ormerod: Clinical Lecture.

WEDNESDAY (28th).—LONDON POST-GRADUATE COURSE.—Roy. Lond. Ophthalmic Hospital, Moorfields, 8 P.M., Mr. A. S. Morton: Retinal Affections.

HOSPITAL FOR CONSUMPTION, &c. (Brompton).—4 P.M. Dr. Habershon: Bronchiectasis.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. Whitfield: Medical Cases.

THURSDAY (29th).—LONDON POST-GRADUATE COURSE.—Brit. Inst. of Preventive Medicine, Gt. Russell-st., W.C., 3.30 P.M., Dr. Allan Macfadyen and Mr. A. G. Foulerton: Quantitative Estimation of Albumins.—Central London Sick Asylum, Cleveland-st., W., 5.30 P.M., Dr. P. Manson: Diagnosis of Malaria.

THE HOSPITAL FOR SICK CHILDREN, (Gt. Ormond-st., W.C.)—4 P.M. Dr. Barlow: Demonstration.

FRIDAY (30th).—LONDON POST-GRADUATE COURSE.—King's College, 3 to 5 P.M., Prof. Crookshank: Tuberculosis and Leprosy.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Dr. Taylor: General Symptomatology.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 22nd, 1896.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind	Dry Bulb	Wet Bulb	Solar Radia in Vacuo	Maximum Temp Shade	Min. Temp	Rainfall	Remarks at 8.30 A.M.
Oct. 16	29·79	N.E.	55	54	62	57	53	0·07	Raining
,, 17	29·80	N.E.	49	47	78	56	45	0·07	Fine
,, 18	29·41	N.W.	46	44	78	50	44	...	Fine
,, 19	29·19	S.W.	42	40	61	47	37	0·16	Raining
,, 20	29·22	N.W.	42	41	61	48	40	0·03	Overcast
,, 21	29·38	N.E.	41	43	64	50	41	...	Overcast
,, 22	29·64	N.E.	43	41	56	46	39	...	Raining

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

The Index for the first half-yearly volume for 1896 was given in the issue of June 27th. The practice of supplying loose copies has been discontinued, the Index having been placed in the centre of the journal, whence it can easily be detached, and placed either at the beginning or at the end of the volume.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1896 are now ready. Bound in cloth, gilt lettered, price 18*s*.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s*., or post free 2*s*. 3*d*.

To be obtained on application to the Manager, accompanied by remittance.

MEDICAL SCHOOLS IN THE UNITED STATES.

THE *Journal of the American Medical Association* says that in 1893 there were 132 medical schools in the United States; 2 of these were preparatory, 94 were regular, 16 were "homœopathic," 10 were "eclectic," 2 were "physio-medical," and 8 were graduate schools. In the school year of 1892-93 there were 16,130 students attending the regular and 2448 attending the "homœopathic" schools.

FOOD EXHIBITION AT BORDEAUX.

AN International Exhibition of Substances used as Food will be opened at Bordeaux on Nov. 15th, 1896. Every kind of food product will be represented, including also wines, spirits, liqueurs, cider, preserved fruit and vegetables, preserved meat of all descriptions, biscuits, dairy produce, manufactured foods, preparations for invalids, &c. Prizes will be awarded for excellence in the various departments; they will consist of "diplomes de grand-prix," "diplomes d'honneur," gold, silver, and bronze medals. Every information will be supplied on application to the Director, 8, Rue du Palais Gallien, Bordeaux.

Mr. J. V. Newing.—The subject is one upon which we could only receive communications from a medical man.

AN ATYPICAL CASE.

To the Editors of THE LANCET.

SIRS,—Will you kindly insert the following outlines of a case in your valuable journal? It is one that has caused great anxiety and sorrow. In giving it publicity I am actuated by a sincere desire to know how able and experienced medical men in large general practices who are accustomed to meet cases of a like nature deal with them, and I earnestly solicit an expression of their opinions. A woman, aged sixty-nine years, mother of thirteen children, who enjoyed vigorous health and could walk several miles a day without fatigue, spent three months in the south of France. During the last month she suffered much from constipation; finally, an attack of peritonitis ensued that yielded readily to treatment. She was able to be up for two and a half hours on the seventh day, on the eighth day she remained up from 2 P.M. until 7 P.M. Sixteen days subsequently, May 12th, she left for London *vid* Paris, and on May 15th arrived in London rather unwell from *mal de mer*. During a week in the latter city she complained much of irregularity of the bowels. Aperients were taken in small doses, and she went about shopping with two of her daughters. Once she was obliged to take a large dose of compound decoction of aloes and to remain several hours in bed, owing to nausea, before the bowels acted; she then had slight diarrhœa succeeded by irregularity of the bowels for a few days. On returning to her home she again had constipation and appeared to be losing health and strength. Purgatives were administered and medicines to give tone to the bowels, but with only temporary success. The bowels acted too freely—in fact, there was slight diarrhœa. Purgatives were for a few days omitted, then obstinate constipation ensued that soon became absolute; there was little nausea at first and the temperature was normal. What means ought to be adopted to arrive at a diagnosis in such a case and what ought to be done? I am, Sirs, yours truly,

JAMES DUNLOP, M.D. Q.U.I., &c.

Belvedere, Lisburn, co. Down, Oct. 17th, 1896.

A. W. S.—The communication has been forwarded.

JOHN BOLTON—CLUB PATIENT.

AT the annual dinner of the Bolton and District Medical Society, Oct. 13th, 1896, a song was sung entitled "John Bolton—Club Patient," from the pen of Dr. J. Johnston, which told humorously of the ill fate of the sick man too ready to believe ill of his medical attendant—

"John Bolton was a member of the L.I.L.E.C.—
The Loyal Independent Lodge of English Chivalry—
Which paid its Surgeon for attending members far and near
The handsome salary, per head, of half-a-crown a year."

One day John received certain medicine, minus colour, odour, taste, and sediment, whereupon he and his wife tasted, smelled, and shook it up, and decided, in Yorkshire dialect, that it was "nowt but watter." Accordingly next "club neet," beaming with importance and hot with indignation, he laid his charge—

"He said it seemed to him to be a very serious matter,
'That 'stead o' physic Dr. Blank had gan 'im now but watter!'
'A very serious charge indeed!' the President declared,
And free were the remarks against the Doctor that were heard."

The Doctor was required to give an explanation, to which he agreed if the bottle was sealed.

"Upon the night appointed for the hearing of the case
The Plaintiff and Defendant each took his proper place;
John's accusation stated, and the bottle being laid
Upon the table, Dr. Blank was called upon and said:
"'If Brother B believes 'twas only water that he got,
Then he can no objection have to swallow all the lot;
And this I now insist upon, and claim if it is found
That he declines my challenge and his charge falls to the ground.'
"The Doctor's unexpected words caused great alarm and pain
To Brother B., who dreaded what that bottle might contain;
But to the Brethren all it seemed a reasonable request,
And Brother B. was ordered to submit unto the test."

The next stanzas relate the sad consequences of it:—

"A sadder and a wiser man John hied him home to bed;
And when Pete told his tale—'It sarved 'im reet,' the Brethren said.
No more complaints our hero made, but wisely took to heart.
The lesson that he learned from that large dose of Antim. Tart."

THE ADVERTISEMENT OF CHANGES OF ADDRESS.

THERE are two medical men in London who have recently changed their address, and it is of course right that they should inform their patients that they have done so, but when the information is repeated from week to week and from month to month in the advertisement columns of a newspaper with elaborate directions for finding the new address we begin to doubt whether opportunity has not been taken to transgress the ethical laws of the medical profession under the colour of a reasonable advertisement. We refrain on this occasion from mentioning the names of these gentlemen, but we hope by a discontinuance of the offensive advertisements they will practically repudiate the colour which has been lent to their actions.

STERNAL DISLOCATION OF THE CLAVICLE: AN APPLIANCE WANTED.

To the Editors of THE LANCET.

SIRS,—Will you or any of your readers kindly inform me if there is any treatment or appliance likely to be beneficial in reducing a partial dislocation forwards of the sternal end of the clavicle of twelve months' standing? I am, Sirs, yours faithfully,

Oct. 19th, 1896. SURGEON.

R. T.'s letter has been forwarded to the author of the memoir in question, but it would not be right for us to reveal his name.

X-RAY EXTRAVAGANCES.

To the Editors of THE LANCET.

SIRS,—Last week I was assisting at a large bazaar by holding a small Roentgen Ray Gallery, comprising a Crookes's tube glowing, &c., and a splendid collection of electrographs kindly lent me for the occasion by some of the most eminent experimentalists in the kingdom. As I, in my temporary *rôle* of curator, encountered many gems of exquisitely unconscious humour I venture to forward you a specimen or two as showing how a new-born scientific discovery is invaded and "understanded of the people."

No. 1. An elderly gentleman of prosperous appearance, after examining the unique collection and absorbing a brief *résumé* of x-rayism, objected that the show was not "up to date," as he had "read somewhere in a newspaper that now you can see the liver palpitating and the heart circulating."

No. 2. Two elderly ladies entered the small room and, solemnly seating themselves, requested me to close and fasten the door. Upon my complying they said they wished "to see each other's bones," but I was "not to expose them below the waist-line," each wishing to view the apparently dismantled osseous structure of her friend first!

No. 3. A young and anxious mother asked me to see if her little boy had really swallowed a threepenny-bit, as he was uncertain himself. She had read in the papers that a great doctor, Sir Something Blister (fact), in a speech in a large meeting in Liverpool a little while ago, said that a halfpenny had been seen in a boy's "sarcophagus"!

No. 4. A young girl, of the domestic servant class, taking advantage of her opportunity, as she thought, and my sex, asked me in confidence if I would "look through her young man unbeknown to him while he looked at the pictures to see if he was quite healthy in his internals."

No. 5. When showing a photograph of the invisible spectrum and mentioning the fact that the mystic x rays, owing to their enormous vibration frequency, should take their position far above the ultra-violets, whereas in reality they have a place in the prismatic spectrum as if infra-infra red, one dignified dame remarked, "I don't wonder they call them *infra dig.* rays when they penetrate even one's most intimately protective apparel."—I am, Sirs, yours faithfully,

Oct. 19th, 1896. B. HUNTER.

Crickhowell.—We have decided not to notice the marked paragraph on this occasion. Should, however, the offence occur again we shall be less merciful.

'Tom Brown."—It is certainly not expedient that every boy should be subjected to the treatment. At the same time certain physical conditions make it advisable, and where these conditions exist the process is doubly advisable before the lad goes to a public school.

THE CARES OF EDITING.

PERHAPS it may savour of seeing the mote in our neighbour's eye, but we think the following instances of slipshod writing are worth recording. In "Vectis" for Oct. 21st we notice a paragraph:—

> "TITIAN, CARLYLE, AND THACKERAY.
>
> "At a Royal Academy dinner some artists sitting in the neighbourhood of these great men were expressing their enthusiasm about Titian——"

In the *Nursing Record* for Oct. 17th is a report of Breay *v.* Browne. Sir James Crichton Browne is made to say, referring to recent litigation, "He knew that an action had been threatened against Sir Joshua Reynolds on his death-bed." We know that the true artist never dies, in a sense, but the longevity of these two distinguished artists is remarkable.

MATERNAL IMPRESSIONS AND DEFORMITY IN THE FŒTUS.

"Two interesting cases have recently occurred in my practice," writes a correspondent. "The mother in each case attributed the abnormal condition to a sight which had forcibly impressed her during pregnancy. In Case 1 the mother about the third month saw a child with severe injury to the lip in which I had inserted two stitches. She was much impressed at the time. Her child was born with a hare-lip and total absence of the hard and soft palate on the left side; the child was otherwise well-formed and of more than average development. In Case 2 a member of the woman's family met with an accident whereby one toe was almost severed from the foot. The child she gave birth to had six well-formed toes on each foot and a supplementary finger on each hand." Instances of maternal impressions followed by fœtal deformity are fairly common, but often there is no proof that they should not be placed under the heading of "post" rather than "propter." Case 2 is interesting for the excess of fingers and toes, whereas a deficiency might have been expected.

D. M.—We do not prescribe for patients or recommend individual practitioners.

A SURGEON-CHIROPODIST.

THE *Newcastle Journal* of Oct. 20th, 1896, has the following advertisement, which we are further informed by a correspondent "appears every day":—

NOTICE.

SIXTH RETURN VISIT TO NEWCASTLE, AFTER A LAPSE OF 16 YEARS.

CORNS, BUNIONS, CALLOSITIES, WARTS, INGROWING AND DEFORMED TOE NAILS.

Absolutely and effectually Eradicted without causing the least pain.

MR. SIEMMS

(Specialist in Skin Disorders of the Hands and Feet),
SURGEON CHIROPODIST,
May be consulted This Day and Daily at
144, NORTHUMBERLAND-STREET,
NEWCASTLE-ON-TYNE.
Hours: 10 to 5, and 6 till 8.

Numerous testimonials from leading medical and other influential gentlemen of Newcastle-on-Tyne vouching as to Mr. Siemms's skilful and painless mode of treatment may be seen at his rooms. Among many others are the following, and to whom he can refer:—

W. D. Stephens, Esq., J.P., Dr. Wm. Murray, Dr. Spence Watson, Dr. John Macaulay, Dr. Samuel Macaulay, Councillor McBryde, Dr. R. C. Nesham.

Fee from 2s. 6d. each Corn. Bunions, Callosities, Diseased Nails, charged accordingly. Fee specified in all cases previous to operation. Patients attended at own residence without extra charge.

An early visit politely requested.

Four of these gentlemen are on the Medical Register and owe it to themselves and their profession to immediately prohibit this disgraceful use of their names and flatly contradict the advertised assertion that they have given testimonials to "Mr. Siemms, Surgeon Chiropodist," or have permitted him to use their names as references.

ERRATUM.—The diplomas in State Medicine mentioned on p. 1127, col. 2 (Oct. 17th), were gained at the Conjoint Examinations in Ireland by the Royal Colleges of Physicians and Surgeons.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Hampshire Independent, Ashton Standard, West Kent Advertiser, Southampton Observer, Hull News, Times of India, Manchester Courier, Newcastle Journal, Pioneer Mail, Western Daily Mercury, North-Eastern Gazette, Scotsman, Sussex Daily News, Essex Newsman, Derbyshire Courier, Worcester Herald, Liverpool Daily Post, Builder, Wolverhampton Chronicle, Birmingham Post, Hornsey Journal, Leeds Mercury, Hereford Times, Berks Advertiser, Architect, Bucks Standard, Preston Herald, South Wales News Somerset County Herald, Yorkshire Post, Northern Echo, Halifax, Guardian, Carlisle Journal, Woking Mail, Liverpool Courier, Brighton Gazette, Bristol Mercury, Glasgow Herald, Framlingham News, Sanitary Record, Hertfordshire Mercury, Local Government Chronicle, Mining Journal, City Press, Reading Mercury, Weekly Free Press and Aberdeen Herald, Plympton Gazette, Surrey Advertiser, Local Government Journal, North Down Herald, Bangor South-Western Star, Banffshire Journal, Eastern Morning News, Whitby Gazette, Bury and Norwich Post, Bedfordshire Standard, Maryland Medical Journal, St. Mary's Hospital Gazette, Devizes Gazette, Kent Argus, Cork Examiner, Keene's Bath Journal, West Middlesex Herald, Chester Guardian, Isle of Man Times, Jedburgh Gazette, &c. &c.*

Communications, Letters, &c., have been received from—

A.—Dr. Anningson, Cambridge; Dr. F. Alderson, Lond.; Messrs. Allen and Hanburys, Lond.; Messrs. R. Anderson and Co., Mr. C. M. Anderson, Christchurch, N.Z.; Messrs. Arnold and Sons, Lond.; Messrs. J. Allen and Son, Lond.; Mr. F. D. Askey, Lond.

B.—Mr. J. P. Bush, Clifton; Mr. A. S. Barling, Lancaster; Dr. Fletcher Beach, Kingston Hill; Messrs. Burgoyne, Burbidges and Co., Lond.; Mr. C. A. G. Browne, Lond.; Dr. A. O. Bobardt, Brisbane; Mr. A. M. Broadley, Lond.; Messrs. Burroughs, Wellcome and Co., Lond.; Dr. J. Bullar, Southampton; *Birmingham Daily Post*, Proprietors of; Messrs. Foster, Brown and Co., Montreal; Messrs. C. F. Behringer and Söhne, New York; Messrs. F. B. Benger and Co., Manchester; Dr. F. W. Burton-Fanning, Norwich; Mr. C. Birchall, Liverpool; Messrs. Blondeau et Cie, Lond.; Mr. M. Buchner, Lond.

C.—Dr. W. Carey, Lond.; Messrs. Crossley, Moir and Co., Lond.; Messrs. Cartwright and Rattray, Lond.; Messrs. S. Clark and Co., Lond.; Mr. R. Cuffe, Lond.; Messrs. Christy and Co., Lond.; Messrs. J. and A. Churchill, Lond.; Charing Cross Hosp., Lond., Secs. of; Mrs. H. H. Chapman, Paris; Surg.-Maj. J. Clarke, Dalhousie; Chemische Fabrik von Heyden, Radebeul; Mr. J. C. Cormack, Boscombe; Chelsea Hosp. for Women, Sec. of; Mrs. Chapman, Lond.; Señor A. T. Carbabajal, Mexico City; Messrs. Clark, Wolverhampton; Cortland Wagon Co., Lond.; Comfort, Lond.

D.—Mr. W. G. Dickinson, Lond.; Messrs. Doulton and Co., Lond.; Messrs. A. De St. Dalmas and Co., Leicester; Messrs. W. Day and Sons, Maldstone; Dr. M. Demakis, Trikala, Thessaly, Greece; *Domestic Engineering*, Lond., Sec. of; Dr. T. S. Dowse, Lond.

E.—Mr. W. Edmunds, Chesterfield.

F.—Mr. G. B. Finlay, Disley; Mr. Willoughby Furner, Brighton.

G.—Dr. W. C. Greeve, Monrovia, Liberia, W. Africa; Globe Advertising Co., Aston Clinton; G., Lond.; General Post Office, Lond., Controller of; Glasgow Samaritan Hosp., Hon. Sec. of.

H.—Mr. G. H. Hames, Lond.; Mr. M. Hoff, Lond.; Dr. J. Hawkes, Lugano, Italy; Mr. H. C. Hopkins, Bath; Surg.-Capt. Patrick Hehir, Hyderabad, India; Dr. Jas. Hardie, Manchester; Mr. T. Holland, Lond.; Messrs. J. Haddon and Co., Lond.; Halifax Infirmary, Sec. of; Dr. S. H. Habershon, Lond.; Mr. B. Hunter, Liverpool.

I.—Messrs. Ingram and Royle, Lond.

J.—Mrs. Jordan, Birmingham; Justice, Lond.; Mrs. Johns, Carrickfergus.

K.—Dr. T. N. Kelynack, Manchester; Messrs. Keith and Co., Edin.; K. T., Lond.

L.—Dr. E. Liveing, Lond.; London School of Medicine for Women, Sec. of; Lancaster County Asylum, Whittingham, Med. Supt. of; Mr. H. Lewis, Lond.; Dr. J. F. Little, Lond.; Linotype Co., Lond., Sec. of; Mr. H. Litherland, Pemberton; L. M., Lond.

M.—Mr. George Morgan, Brighton; Messrs. Maple and Co., Lond.; Messrs. Macmillan and Co., Lond.; Messrs. Morrison, Ingram and Co., Manchester; Medical Society of Lond., Secs. of; Messrs. J. Maclehose and Sons, Glasg.; Mr. Mills-Roberts, Llanberis; Mr. A. Maude, Westerham; Mr. O. C. Maurice, Reading; Dr. R. Moir, St. Andrews; Sir E. Millais, Shepperton; Surg.-Maj. C. Maitland, Suakim, Egypt; Mr. J. H. Martin, Rugby; Mr. A. Mottram, Lond.; Medicus, Lond.

N.—Mr. R. S. S. Nuthall, Seaford; National Hosp. for the Paralysed and Epileptics, Lond., Sec. of; Newcastle-upon-Tyne Corporation (Health Dept.), Med. Officer of Health of; Messrs. Neyroud and Son, Lond.; Nemo, Lond.; National Refuges for Homeless Children, Lond., Sec. of; Dr. D. Nicolson, Guildford.

O.—Dr. W. O'Neill, Lincoln; Mr. F. Orchard, Lond.

P.—Mr. W. B. Plummer, Lond.; Messrs. Parke Davis and Co., Lond.; Mr. Young J. Pentland, Edin.; Dr. C. Porter, Stockport; Messrs. Paternoster and Hales, Hitchin.

R.—Mr. J. M. Richards, Lond.; Messrs. Richardson Bros. and Co., Liverpool; Messrs. Reynolds and Branson, Leeds; Mr. D. V. Rees, Lond.; Mr. N. C. Ridley, Leicester; Mr. G. A. Roberts, Belfast; Messrs. J. Richardson and Co., Leicester.

S.—Mr. Noble Smith, Lond.; Society for the Relief of Medical Men, Lond., Sec. of; Dr. L. E. Stevenson, Temple Sowerby; Miss Stanton, Brighton; Messrs. Street and Co., Lond.; Messrs. G. and G. Stern, Lond.; Surrey, Torquay; St. John's Hosp. for Skin Diseases, Lond., Supt. of; Dr. Fred. J. Smith, Lond.; Mr. W. R. Stewart, Lond.; Dr. D. J. Sherrard, Hailsham; Dr. H. Sutherland, Lond.; Mr. H. Sell, Lond., Surg.-Capt. R. R. Sleman, Lond.; Messrs. Samuel Bros., Lond.; Mr. J. B. Smith, Lond.; Mr. F. O. Simpson, Wakefield; Spes, Lond.

T.—Dr. O. B. Trumper, Wakefield; Dr. E. F. Trevelyan, Leeds, Dr. George Thin, Lond.

U.—United Alkali Co., Liverpool, Manager of; University Office, Oxford, Registrar of.

V.—Mr. W. P. Van Wyk, Lond; Mr. J. W. Vickers, Lond.; Volunteer Ambulance School of Instruction, Lond., Sergeant of.

W.—Mr. W. R. Williams, Preston; Messrs. Willing & Co., Lond.; Mr. W. M. Wills, Lond.; Mr. C. G. Wheelhouse, Filey, Yorks; Dr. Cartwright Wood, Lond.; Mr. E. R. Williams, Carmarthen; Westbrooke House, Alton, Med. Supt. of; West Ham Public Library, Chief Librarian of; Wolverhampton Eye Infirmary, Sec. of; W., Lond.; Mr. G. M. White, Lond.; Messrs. W. Wood and Co., New York.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. G. N. Adams, Lond.; Alpha, Lond.; Mr. R. R. Anderson, Fern Hill; Addenbrooke's Hosp., Cambridge, Sec. of.

B.—Mr. E. Bather, Helston; Mr. W. H. Bennett, Lond; Dr. Bryan, Brough; Mr. G. Booth, Woodbridge; Mr. H. R. H. Bigg, Lond.; Beta, Leeds; Mr. G. H. Broadbent, Manchester; Mr. H. T. Butlin, Lond.; Dr. A. O. Bobardt, Lond.; Messrs. J. Bell and Son, Nottingham; Mr. F. S. Beechcroft, Lyme Regis; Mrs. Bennett, Lond.; Mr. W. A. H. Barrett, Ottery St. Mary; Bolton, Blackburn road (72); Mr. F. H. Baker, Lond.; Mr. G. A. Barrow, Manchester.

C.—Prof. W. H. Corfield, Lond.; Cymro, Penygroes; Messrs. Cooper and Holt, Lond.; C. F., Handsworth; Mr. F. A. Cory, Newport, I. of W.; C. S., Lond.; Revd. C., Reading; Mr. E. E. Cooper, Lond.

D.—Demetrius, Lond.; Mr. N. Daly, Kingston Bagpuize; D. M., Lond.

E.—Mr. J. A. Eyton-Jones, Wrexham; Dr. G. Elder, Edin.; E. P., Lond.; Messrs. H. and T. C. Edwards, Lond.; Messrs. Eason and Son, Dublin; Eastern, Lond.; Dr. A. J. Edge, Maidenhead.

F.—Festina, Southport.

G.—Dr. A. S. Gubb, Lond.; Grove House Private Asylum, Church Stretton, Sec. of; General Medical Council, Lond., Registrar of; Mr. F. J. Gray, Walsall; Dr. C. W. M. Grier, Mevagissey; Dr. J. Glaister, Glasg.

H.—Dr. J. M. Hassell, Northwich; Miss Hooper, Lond.; Harvard Co. (of Canton, Ohio), Lond.; Dr. T. A. He me, Manchester; Hereford General Infirmary, Sec. of; Mr. J. D. Hessey, Hastings; Mr. W. T. Homan, Hovingham; Mr. H. S. W. Hall, Hertford; Mr. J. Heywood, Manchester; Mr. P. Hayes, Bury.

I.—Isle of Wight County Asylum, Ryde, Sec. of.

J.—J. W., Lond.; J. S. H., Lond.; Joint Counties Asylum, Abergavenny, Clerk of.

K.—Mr. R. C. B. Kerin, Lond.; Mr. G. Knapton, Manchester; Messrs. Keen, Robinson and Co., Lond.

L.—Dr. J. M. Laughton, Perry Barr; Messrs. Lee and Nightingale; London Post-Graduate Course, Treasurer of; Locust, Lond.

M.—Mr. H. Marsh, Lond.; M.D., Lond.; Mr. J. D. Malcolm, Lond.; M. G., Lond.; Molar, Lond.; Dr. J. D. McCaw, Lond.; Dr. F. K. March, Bradford; Miss Canning, Lond.; Maltine Manufacturing Co., Lond.; Messrs. J. and C. Mort, Stafford; Moat House, Tamworth, Proprietor of; M. D., Brussels; Mutual Life Assurance Co. of New York, Lond., Sec. of; Mr. J. C. Matthews, Cambridge; Monkwearmouth and Southwick Hosp., Sunderland, House Surg. of; Messrs. Maythorn and Son, Biggleswade; Mr. J. A. H Mogg, Feckenham; Mr. J. E. H. Mitchell, Church Stretton; Dr. A. B. McKee, Skerries; Mr. S. Mackey, Astley.

N.—Miss Nicholson, Blackadon; National Dental Hosp., Lond., Sec. of; National Registration of Plumbers, Cardiff, Sec. of; Norfolk and Norwich Hosp., Sec. of; Northumberland County Asylum, Cottingwood, Clerk of.

O.—Mr. J. O'Duffy, Dublin; Mr. E. Owen, Lond.; Orient, Lond.

P.—Dr. J. F. Payne, Lond.; Miss R. Paget, Lond.; Plymouth Royal Eye Hosp., Sec. of; Messrs. Powneeby and Co., Lond.; Practice, Lond.; Polo, Newquay, Cornwall.

R.—Mr. A. Robson, S. Shields; R. R., Lond.; Messrs. Reid and Donald, Perth; R., Lond.

S.—Dr. H. J. Stiles, Edin.; St. Luke's Hosp., Lond., Sec. of; St. Marylebone Parish Guardians, Clerk to; Dr. J. B. Spence, Burntwood; Sanitas Co., Lond; School of Medicine of the Royal Colleges, Edin., Sec. of; Sheffield School of Medicine, Sec. of; Success, Lond.; Stockport Infirmary, Sec. of; Messrs. W. H. Smith and Son, Birmingham; Dr. J. Smith, Dumfries; *Surrey Comet*, Kingston-on-Thames, Manager of; Dr. W. C. Sullivan, Lond.; Salocin, Lond.; Mr. M. Stranger, Lond.; Mr. W. F. Stevenson, Pudsey; Statim, Lond.

T.—Mr. F. Treves, Lond; Trafalgar, Lond.; Teignmouth Hosp., Sec. of; Mrs. Theobald, Leicester; Mr. D. W. Thomas, Lond.; Mr. R. Trimble, W. Bromwich; Dr. H. Tilley, Lond.; Mr. J. Thin, Edin.

U.—University College, Bristol, Sec. of; Union Assurance Society, Lond., Sec. of; Urbanus, Lond.

V.—Mr. M. Vinrace, Wokingham; Vaccine Lymph Association, Lond., Sec. of; Viaje, Lond.; Verax, Lond.; Dr. G. R. Vicars, Whitley Bridge; Mr. W. H. Vallance, Lond.

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